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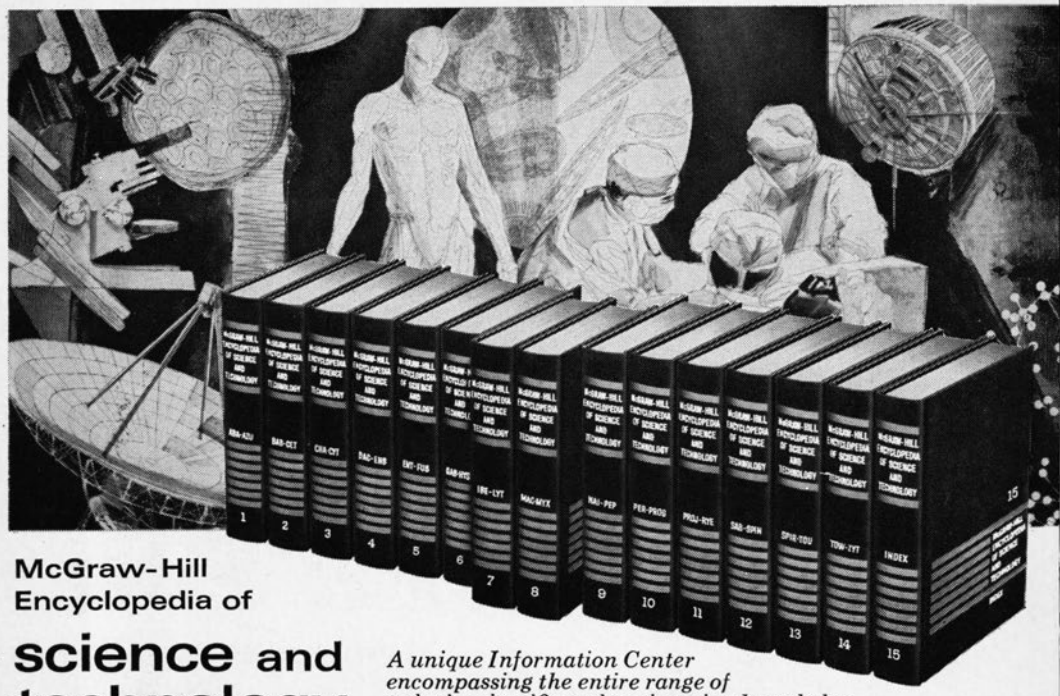

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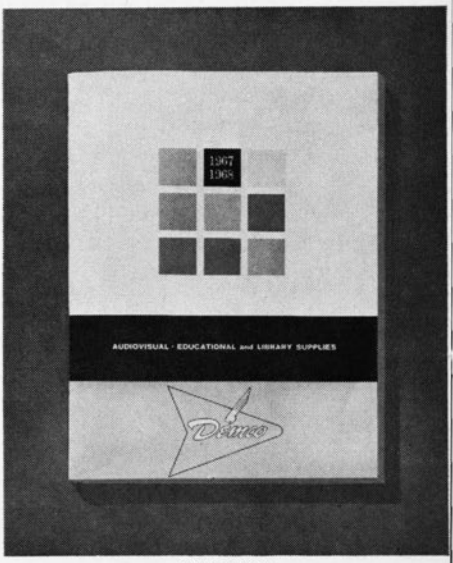

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The Proof of the Pudding: Using Library of Congress Proof Slips

This paper points out the many uses to which LC proof slips can be put in medium-sized academic libraries and compares them to accomplishing the same functions in other, more traditional, ways. A sample routine for maximum use of proof slips in a technical services area is described. Economy and efficiency considerations seem to warrant their increased use.

LIBRARY OF CONGRESS proofsheets have been available to libraries for a long, long time. Unfortunately, some academic libraries which might find it profitable to use them are not doing so. These libraries might benefit from a review of some of the ways in which proofsheets are being employed by other libraries. On the other hand, some of the libraries now purchasing this valuable resource are not taking full advantage of it. The latter might benefit from considering a system in which proofsheets are used throughout the resource-building and processing activities of a medium-sized university library. After noting some current applications, such a system will be outlined below.

First, a few facts about the proofsheets may be desirable to set the scene. They are created when copy for new Library of Congress catalog cards is run on long sheets, five cards at a time. Complete sets of these sheets, or partial sets based on broad subject classifications, may be purchased from the Card Division.[1]

[1] U.S. Library of Congress, Processing Department, *Cataloging Service, Bulletin 73*, Washington, D.C.: 1965, p. 3.

Mr. Waters is Chief, Reference Services Division, National Library of Medicine, and Mr. Costabile is Special Assistant to the Chief, Technical Services Division, National Library of Medicine.

Complete sets, mailed weekly, cost $140 per year. Cut to card size and punched (in the form referred to hereafter as proof slips), the charge is $185. Daily mailings are available for an additional $25. About eighty-five thousand of the individual slips are being produced annually, although a much larger volume may safely be predicted for the future because of the existence of the Title II program. When the Library of Congress computerizes its current cataloging, it might be able to offer an individualized proofslip service, tailored to the measure of a customer library's requirements by subject, language, etc., with self-correcting feedback through a record of the cards ordered by the customer.

Libraries can use these slips for many purposes: to verify book order information; to obtain LC card numbers before ordering cards; to produce their own catalog cards; even to select current materials for purchase.

Many of the libraries which purchase the complete set alphabetize the slips by main entry and cumulate the file through one or more calendar years. This file may be used, as noted above, to verify or to obtain more complete information on orders for current titles, in lieu of or before checking many issues of the printed *National Union Catalog*. A substantial amount of searching time can be saved

by doing so. Obviously, however, a considerable volume of searching must take place before savings in searching-time can offset the cost of the slips and the cost of maintaining the file, which may require up to twenty hours of alphabetizing and filing per week. It should be noted also that the file will be more up-to-date than the printed catalog, but on the other hand the printed catalogs include typed NUC entries, plus some cross references, which make them more comprehensive than the file. Two recent articles on verification searching do agree on the wisdom of searching a proofslip file to locate information on current imprints, before searching the printed NUC.[2]

Instead of or in addition to using the cumulated file of proof slips as an aid in ordering current imprints, some libraries use the file as an aid in cataloging. If the file is searched so that LC cards may be ordered by card number, there will be savings on card costs, since the first card in a set costs five cents less when ordered by number than when ordered by author and title.[3] It would be uneconomical to use this file *only* to obtain card numbers, however, since the cost of file maintenance and searching would offset the lessened cost of the cards.

Some libraries, after locating proof slips in a cumulated file, use them to produce their own catalog cards, rather than ordering them. A thorough study of the problems, methods, and costs of card reproduction was published in 1965,[4] but it is already out of date; for one thing, the cost of Library of Congress cards has gone up since the book was published, and the cost of Xeroxing cards has gone down. At the present time, it can be stated that any library with a Xerox 914 copier available can produce reasonably good catalog cards for about two cents per card, over and above the cost of the original copy. This price includes all labor, materials, and meter charges, but assumes that the monthly rental and minimum monthly charges are covered by other uses of the machine or by a large volume of card copying. The estimate also posits the use of die-cut stock in strips of eight pre-punched cards, which is now available commercially. (The study mentioned above assumed that only four cards at a time were copied, and that the library required a power cutter to cut plain stock.) Using the figure given above, a set of five Xeroxed cards would cost about ten cents, as against a comparable set of LC cards costing no less than thirty-four cents. The cost of a year's proof slips would be more than covered by savings in Xeroxing a thousand sets of cards. (This analysis bypasses the cost of filing and pulling proof slips, which has been covered in a recent article by Donald Axman.[5])

Additional economies can be realized if the LC call number is accepted and is typed on the proof slip before cards are produced. One typing and one proofreading will then replace several. Furthermore, the time and effort involved in keeping records of LC cards on order may be substantially reduced since cards can be copied and returned within a short time after proof slips have left the catalog department. Ease in obtaining good quality cards prepared from typed copy for "original" cataloging constitutes one more fringe benefit which can be squeezed from this system.

Selection logically should have been the first function mentioned in discussing the use of proof slips. It is being treated last because there seems to be more resistance to the use of proof slips in selection than for other purposes, and de-

[2] Gerald J. Lazorick and Thomas L. Minder, "A Least Cost Searching Sequence," *CRL*, XXV (March 1964), 126-28; and Ashby J. Fristoe, "The Bitter End," *Library Resources and Technical Services*, X (Winter 1966), 91-95.

[3] U.S. Library of Congress, *op. cit.*, p. 1.

[4] ALA, Library Technology Project, *Catalog Card Reproduction: Report on a Study Conducted by George Fry and Associates, Inc.* (Chicago: ALA, LTP, 1965).

[5] Donald H. Axman, "Antidote for the Dormant," *Library Journal*, XCI (February 1, 1966), 458.

tailed consideration of the pros and cons appears desirable.

This resistance may be because of the fact that some librarians believe that it is desirable to examine a book and to read one or more reviews before making a purchase decision. In any library, however, there are some books which ought to be purchased immediately, regardless of quality as indicated by personal inspection or reviews. This doctrine may seem shocking to some, but a moment's thought should convince them. The larger a library is, the larger the percentage of its current acquisitions which can be purchased without the need for examination or consultation of reviews. Once a certain critical size is reached, knowledge of authors, subjects, publishers, and/or series which should be included in the collection suffices to determine the great majority of selection decisions on current trade items. If this were not true, *Publishers' Weekly* and prepublication announcements would not be treated as valuable selection tools by many libraries. The largest libraries of course pass even this stage, ordering whole classes of material at a time, through blanket orders for a publisher's output or for all materials in a given subject from a given area. As Vosper points out, large academic libraries are concerned "with the selecting not of individual books but of books in quantity."[6]

Granted that many libraries *could* select from proof slips rather than awaiting reviews, it still remains to show why they *should* do so.

Traditionally, some academic libraries have circulated certain basic announcement and review media such as PW, LJ, TLS, *Saturday Review*, publishers' catalogs, and publishers' announcements, to subject specialists. These specialists, whether on the library staff or on the faculty, advise on or approve purchase of current titles noted in these media. Many practical limitations are inherent in this procedure. Use of proof slips as a library's major selection tool for current materials may well prove more efficient.

A major disadvantage of the review media is that they afford much less comprehensive coverage of world publishing output than the proof slips do. PW listed 28,595 new titles and new editions in 1965. To bring this figure close to the eighty-five thousand proof slips received annually, it would be necessary to examine a substantial number of additional specialized and foreign media. Thus in terms of quantity a library using the proof slips would have a much greater base to select from than when using the traditional tools of selection. On the other hand, the greater selectivity of the review media means that fewer titles out of scope need to be considered. It must also be admitted that the *major* traditional media ought to be skimmed for urgently desired items even though proof slips are used as the main selection tool. This can be done by generalists on the library staff, however, without involving specialists.

Another disadvantage in using the general review media for selection lies in their arrangement. Some, like PW, are arranged alphabetically by main entry. A few, such as LJ, group their listings by subject and then alphabetically. Others, like the New York *Times Book Review*, follow neither pattern. In two of these three formats, the specialist is forced to wade through a great deal of extraneous material to locate items in his field of interest.

Another drawback lies in the fact that issues of general review media tend on occasion to get waylaid on one specialist's desk, thus delaying selection and order of materials in other fields as well as in the one being considered.

All too often the general review media are reviewing and listing the same books.

[6] Letter from Robert Vosper quoted by Gertrude Wulfekoetter in *Acquisition Work: Processes Involved in Building Library Collections* (Seattle: University of Washington Press, 1961), p. 30.

Thus the subject specialist has to consider the same titles more than once and these titles may have to be searched more than once. This duplication of effort may be avoided to a great extent if proof slips are the major selection tool.

In some libraries, recommendations are transcribed from the review media to a special form before being referred to a specialist for approval. Ordinarily, less information will be available on these forms than on the proof slips, with their detailed descriptive cataloging (including series notes), and subject cataloging. Cost is not shown on the proof slips, but in larger libraries the cost of a current trade book is seldom a determining factor in its selection. Costs can often be ignored if unintentional purchase of overly expensive materials is forestalled through use of a blanket price limitation on the order form. Support for this view is lent by Lazorick and Minder, who define "adequate information" for ordering purposes without mentioning cost.[7] In any case, the Library of Congress is now printing the list price on proof slips for books listed in the BNB. This practice could easily be extended to American and other titles. Clearly LC might well do so if enough libraries expressed their interest.

In comparing the traditional media with proof slips as a selection tool, then, the latter would appear to be more comprehensive in scope, easier to limit to the specialists' interests, and less likely to be shortstopped or to create problems of duplication. It would be hard to deny that the unit record has distinct advantages over the journal issue in academic library selection procedures; ventures such as the *Library Journal's* "Reviews-on-Cards" and the increasing use of 3 x 5 cards for prepublication announcements by publishers and jobbers confirm the fact.

[7] Lazorick and Minder, *op. cit.*, p. 126.

The procedures for use of proof slips in the selection process are quite simple. Upon receipt, the proof slips are arranged by subject, following the call number to the first or second letters, or as deep in the classification as required to suit the needs of the library.

Prescreening should be done by generalists on the library staff because of the great number of proof slips received. This may require eight or more hours of staff time each week. Titles not within the scope of the collection either because of subject or language limitations can be eliminated at this point. The residue may then be sent to the selection officer(s), selection committee, or faculty members who have responsibility for selection in each subject.

The slips should be returned to the order department in several groups: items approved, those disapproved, and those where further investigation is needed.

Systems Approach

LC proof slips can be useful in any one or two of the areas mentioned above. Their full benefit can be realized, however, only if they are used throughout the whole technical services operation. One way in which this can be done is described below. A library purchases the complete set and has the weekly delivery arranged by subject. Librarians winnow the chaff and refer the slips to subject specialists. Slips approved for purchase are returned to the order unit. (No file of proof slips would need to be created and maintained to speed verification searching, since these slips bear sufficient information for ordering.) The slips are alphabetized to speed the searching required to determine whether the library already owns or has ordered a copy or edition of an approved title. After searching, book orders can be typed from the information on the slips. (Orders could also be prepared by

Xeroxing the slips on different colored sheets of paper to create a multiple order form, as at the University of North Carolina.[8]) The call numbers are then typed on the slips, and the slips accumulated in groups requiring the same number of cards in a set. After Xeroxing catalog cards, the approximate headings are typed on added entry cards. When the books are received, fully prepared card sets await them, ready for filing after minimal additional work. The slips can then be used in the preparation of an accessions list. This concludes a processing operation characterized by speed, smoothness, and economy throughout.

It has been said that in the total systems approach, each unit of work "is considered in relation to all others to provide a totally integrated and compatible system."[9] Some aspects of technical services work, such as accounting, are not integrated in the system described above, but many others are, making it difficult to conceive of a more comprehensive system short of full automation.

[8] Richard M. Dougherty and Samuel M. Boone, "An Ordering Procedure Utilizing the Xerox 914 Electrostatic Process," *Library Resources and Technical Services*, X (Winter 1966), 43-50.

[9] Patricia Sievers and Paul Fasana, *Automated Routines in Technical Services* (L. G. Hanscom Field, Mass.: AFCRL Research Library, 1964), p. 2.

Conclusion

The paragraphs above have described how libraries are using proof slips as aids in bibliographic verification; in the book and card ordering processes; in card production; and in selection. In each functional area the use of proof slips has offered certain advantages over traditional methods. A currently feasible technical services system is also described in which proof slips are used throughout, from selection to preparation of an accessions list. All the benefits of proofslip use in each area are retained, and many more are created as a result of the systems approach. The cost of the slips are spread over three or four different operations, rather than one or two, while the costs of filing into and searching through a cumulated file are bypassed.

Only through such an approach, it would seem, can a medium-sized university library take full advantage of the painstaking and expensive bibliographical work done by the Library of Congress. Furthermore, by following this approach even the smaller university libraries, and special libraries using partial sets of the proof slips, can obtain this benefit without worrying unduly about the expense. ■■

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JULIAN L. SIMON

How Many Books Should Be Stored Where? An Economic Analysis

The relative advantages and disadvantages discussed are of the remote storage of lesser-used materials in research libraries. Valid decisions on what to store can only be based upon comparing cost of storage with the value of having the same materials at hand. Considerations for such determinations are raised, and formulas are proposed. Several assumptions are made, and appropriate alternatives are delineated.

As SCHOLARS continually explore and write about new areas of learning, major research libraries necessarily grow in size. This growth represents an increase in the corpus of human knowledge, and research libraries make it their task to maintain an inclusive collection of recorded knowledge. New books do not make old books unnecessary.

Growth in knowledge, however, creates problems of both space and bibliographical systems. Buildings and bookstacks are expensive, land for expansion on the central campus becomes scarce, and the books that are relevant to any study become harder and harder to find amidst the multitude of volumes that are not at that moment relevant.

The growth problem will not be engineered away during the next twenty or thirty years by some simple administrative or technological device: subdivision of the library into smaller operating units introduces new difficulties of cost and book-finding; microfacsimile, as of this moment, is more expensive and harder to use than are conventional reading materials; and philanthropic alumni make themselves increasingly scarce as the price of immortality goes up and up, so there is little likelihood of continued expansion without reference to cost.

As a way out of these difficulties, some major research libraries have initiated programs of housing the least used books in storage libraries. Such storage libraries are less expensive than conventional stacks due to the compactness of bookshelves, shelving-by-size from one end of the shelf to the other, and employing cheaper land and buildings. The major effect of book storage upon library patrons is that they cannot browse in the stored collection, and they must wait at least a few hours for delivery of the volumes they seek.

But the decision about how many books—if any—should be placed in storage is not at all obvious. A rational decision procedure demands that the librarian balance the *cost* of the housing and maintenance of books against the *revenue* derived from the use of the books. It is not sufficient merely to compare the costs of different types of storage.

It is a truism of economics that we maximize the usefulness of an economic system if we maximize "revenue minus costs," or if we minimize "costs plus revenue losses." If we know the cost of housing books in conventional stacks and the cost of housing them in storage, as

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well as the revenue that a particular book will provide when housed conventionally and the revenue that it will provide when housed in storage, we may maximize usefulness if we store all books for which the difference in revenue is greater than the difference in cost. All (!) that we need to know are the costs and revenues relevant to the two types of book housing.

For the revenue side, we shall employ *arbitrary* estimates of the dollar value of book use, and of the loss of book use in storage, in order that we may consider the library as an independent economic unit. Given those estimates, the specific task of this paper will be to suggest methods of estimating conventional and storage housing costs and ways of using the information to arrive at decisions about placing books in storage or in conventional housing.

Necessary Assumptions

Some assumptions must be made about general conditions if we are to arrive at any rational solution, but they need not be those that this paper chooses; the reader may, if he chooses, replace them with other assumptions of a similar nature. For purposes of this paper, however, we shall assume that:

1. No research library would desire a more costly type of housing for any of its books than it provides at present in open or semi-open stacks.

2. The upper limit to the budget for housing books of the present collection size, then, will be the cost of housing those books at present. That upper limit is not identical with the total budget for housing books at present, because the total housing budget expenditures may be reduced by weeding out the extra copies and old editions. The assumption in which we are interested, rather, is the upper limit for each *physical book*, based upon the average cost of housing books in present stack arrangements.

3. Though serials and monographs may have quite different characteristics and value to scholars, our general treatment of them will be as if they were homogeneous. We will indicate how we would alter the mode of solution if we were willing to accept the added complexity of considering them as different commodities. We will deal with subject-area differences similarly.

4. For the sake of specificity, we will set the problem within the University of Chicago library, and indicate how computations might be made for some part of that library system. The University of Chicago library includes approximately two million volumes at present, somewhat less than half of which are serials.

5. We assume that University of Chicago population will remain constant in the future, and that there will be no change in the future in the external economic environment that would affect the revenues and costs connected with libraries.

6. We will assume that the librarian can make meaningful estimates of the loss of revenue resulting from the storage of books. At this time we will only assume that revenue-loss statements *can be made*, and we shall not consider the problem of correct ultimate valuation. We imply simply that whoever estimates the amount of loss, estimates the amount of money that would have to be spent elsewhere in the library or in the university to produce that much revenue,[1] *i.e.*, usefulness. In other words, we assume that he "knows" the dollar-cost of projects of value to the university equal to the value of additional book uses. It is of crucial importance to recognize that

[1] We must remember that money is not an absolute standard with an intrinsic value against which other things may be measured meaningfully; rather money is an intermediate yardstick, and when you evaluate goods in money units you are really evaluating them against other goods and services that are alternative uses of the money. We may dramatize this by pointing out that whose money is being spent affects the valuation. If the director of the library were to pay for the loss out of his own pocket, he would not only be unwilling, but unable, to appraise the loss per book at more than a few cents. A philanthropist might be able to make an entirely different appraisal.

at this stage such estimates are arbitrary —but necessary—judgments.

7. On the basis of the results of one portion of the Library Use Study,[2] we assume that *recorded* use is a constant-multiple index of *all* use of books. We also assume that the recorded use is then a constant-multiple index of the *value* of books. In other words, by this assumption a book that will be used twice in the next five years is worth twice as much as a book that will be used once in the next five years.

Revenue, and Loss of Revenue Due to Storage

The Cost of the Loss-per-Book. We first consider the loss per book that would occur for books placed in storage, over a year's time. Please note the distinction between "cost-per-book" and "cost-per-use" (or between "loss-per-book" and "loss-per-use"). The loss may be divided into three components:

(a) L_a, the extra cost of messenger service required to bring a book from the more distant storage library to the circulation desk. L_a will not include the dollar cost imposed upon the library because it must procure some books from storage that patrons would page themselves if they were in open stacks; patrons' time is required to perform the latter task when the books are housed conventionally. We may estimate the extra cost by multiplying the cost of messenger labor per hour by the extra time required to fetch the book, over and above the time the patron would spend. As a working figure we shall use: ten cents per circulation from the storage library.

To estimate the extra cost per book placed in storage, we multiply the cost per circulation by the probability that the book will be withdrawn during a specified period of time. If the probability that a given book will be withdrawn during a year is 0.01, then the estimated extra cost of messenger service is 10 cents × .01, or a tenth of a cent per year.

(b) L_b, the loss of revenue due to the patron's irritation and impatience at having to wait, plus the loss from possible interferences with his research because he must wait four to twenty-four hours to have the book in his hands. If we take one dollar per use as a working figure, on the average, then the estimated cost per year for a book with a probability of 0.01 uses per year is one cent.

(c) L_c, the loss due to the loss of some uses of the book that would have occurred if patrons had had an opportunity to find the book through browsing. Library Use Study data suggest an upper limit on how much use would be in jeopardy if given books were placed in storage: perhaps one-half of their *total valuable* use (an estimate that is probably on the high side) would be lost if 25 per cent of the books in economics and Teutonic languages and literatures were placed in storage. (Of course if storage plans went into effect, readers would learn how to browse through catalogs, and less of the valuable use would be lost thereafter.) If we place a value upon each valuable use lost, say five dollars per use, and multiply that by one-half of the total expected use, we may estimate the use that will be lost. For a book with an estimated recorded use of 0.01 per year, the estimated loss per year would be two and a half cents.

Note that the director of the library may insert any dollar figures that he feels circumstances warrant in place of the above working figures. He may also substitute schedules of different valuations for different groups of books. He may wish to say that the value of a lost use of a serial is sixteen dollars, while the value of a lost use of a monograph is four dollars. He may set up schedules

[2] Herman H. Fussler and Julian L. Simon, *Patterns of Book Use in Major Research Libraries* (Chicago: University of Chicago Library, 1961).

TABLE 1

EXPECTED REVENUE LOSS OF VARIOUS GROUPS OF ECONOMICS TITLES

Groups of Titles Ranked by Expected Use	Expected Use Per Title Year in 1961	Expected Use Per Title Year in 1966	Expected Use Per Title Year in 1976	Expected Revenue Loss Per Title in 1961
Lowest 25 Per Cent	.0200	.0190	.0170	$3.60 × .02 = $.072
25-35 Per Cent	.0300	.0285	.0255	$3.60 × .03 = $.108
36-50 Per Cent	.0500	.0475	.0425	$3.60 × .05 = $.180

for different subject areas, or for any group of books that he wishes to consider as homogeneous. But it rather obviously would not be feasible for him to set a different value for each of the hundreds of thousands of books that would be likely to go to storage.

The extra cost of messenger service, L_a, and the cost of waiting, L_b, are certainly proportional to the use. By our assumptions, the loss of use is also proportional to recorded use. We may, therefore, say that the total expected revenue loss for a book is proportional to its expected recorded use. By our working figures, the loss would be three dollars and sixty cents for each expected recorded use.

The Total Loss for Groups of Books Sent to Storage. The sum of the expected losses for a group of books is the average probability of a book being used multiplied by the value of the loss, multiplied by the number of books in the group.

The Library Use Study provides data for the estimated probability distribution of the *use* of books going to storage.[3] (But as we have said, we can provide no data that helps to place a *value* upon the cost of waiting.) Table 1 presents such data for a small segment of the collection, the economics monographs. The expected use of various groups of economics books, of which the expected revenue loss is a function, is based in large part upon the number of years since the last use of the book. Note that these data include only titles held by the library at present.

Summing the Revenue Loss for All Time Periods. Library Use Study data also suggest that for those books likely to be placed in storage (from the University of Chicago library with its presently constituted collection), little further obsolescence is likely to occur. Therefore, we assume that the revenue in each period will be the same as in the first period, a helpful bit of simplification. The "present value"[4] of the total revenue loss would then be the value of an annuity of equal sums paid in each year (assuming an appropriate rate of interest).

COSTS OF HOUSING BOOKS IN CONVENTIONAL STACKS AND STORAGE BUILDINGS

Conventional Housing Space Costs. Some of the costs of book housing depend upon the cubic space allowed for books, no matter what proportion of the space is being filled. Therefore, the foundation for estimates of housing costs, in both storage and conventional housing, is the cost of space.

In his article on library cost accounting, Rider[5] lists these items as being relevant when computing space costs:

1. interest on the investment which was made in the building;
2. depreciation and obsolescence accruing on it; insurance on it;
3. heat and light expenditures;

[3] That use is the use that would occur *if the books were to remain in the stacks.* But recorded circulation from storage will necessarily be higher because there can be no non-recorded use in the storage stacks. As a working figure we might estimate that recorded circulation will rise 25 per cent for books sent to storage. We will discuss the estimates as if that correction has already been made.

[4] This is the relevant economic value of the loss.

[5] Fremont Rider, "Library Cost Accounting," *The Library Quarterly,* VI (October 1936), 331-81.

4. janitorial labor;
5. janitorial expenses and supplies;
6. building repairs.

The computations, of course, must be different for storage and conventional housing.

For existing conventional housing, items (1) and (2) will be the most troublesome to establish. Original construction figures are without any meaning fifty years, say, after construction of the building. And the "opportunity cost"[6] of land on a campus is difficult to estimate.

In the long run, conventional book-housing space can be converted into other university uses, such as office space. So the relevant cost per cubic foot for conventional housing "rent" may be approximated by the present cost of new office or library construction on land of similar value to the university. We may estimate the value of the land by referring to the cost of land purchased in the immediate vicinity at this time. It is important to note that this component of the cost of book housing will vary greatly from library to library, depending upon the urban or non-urban location of the campus and library. But it is unlikely to be a major cost factor.

Naturally, the cost-per-year must be arrived at by means of an appropriate depreciation scheme and the choice of a proper rate of interest on the investment. The treasurer of the university should be in the best position to set the appropriate rate of interest. (A Chicago realtor has suggested that a working figure for the cost of rent (1 and 2) in conventional housing in Chicago might be $1.25 per square foot per year exclusive of costs of shelving.)

For conventional housing we may estimate Rider's items (3) through (6) from present library maintenance records. Rider says that Wesleyan measured the cubic footage of all spaces within the library building that were maintained on the library maintenance budget, and then attributed costs to book housing in proportion to the amount of cubic space books occupied. This procedure makes good sense. A fair estimate might be fifty cents per square foot.

Costs of Space per Book Housed in Conventional Housing. Costs of Shelving and Fixtures.

After computing estimates of cost per cubic foot from the cost of rent plus the cost of maintenance, we convert into cost of space per housed book. We must first attribute some part of the cost of shelving and other fixture to each physical book. The estimates of these costs depend not only upon cubic foot costs, but upon book-size, book and shelf arrangement, and proportion of capacity to which the conventional or storage space will be filled on the average day in the period. Once we have calculated the number of volumes that will be housed in a given space (see next few paragraphs) the calculation of costs is trivial.

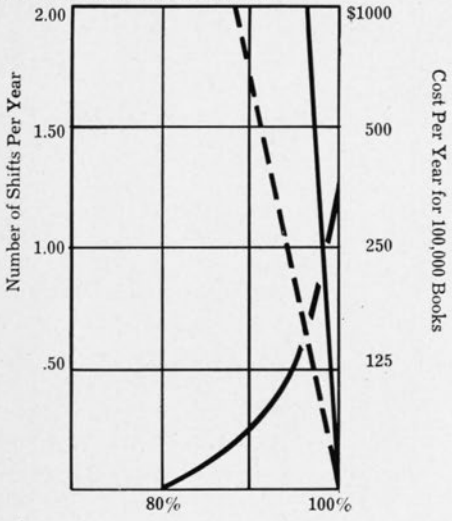
Shifting Costs, and Conventional Stacks Capacity. The necessity of shifting parts of the collection in order to make room for new accessions prevents a library from shelving books solidly from one end to the other of every shelf. Instead, the library disperses its holdings throughout the shelves in such a manner that most new accessions will not overflow the capacity of the shelf on which they will be placed.

At perhaps 80 per cent of shelf capacity[7] it becomes necessary to begin shift-

[6] The opportunity cost is the dollar value of the best alternative use—usually sale on the open market—of the land. It is the most sensible way of estimating a value.

[7] Shelf capacity itself is not a clearcut, easily-measured concept. It is something less than the linear measure of shelving in the presently constituted stacks, the "something less" being made up of (a) the space lost because the discrete volumes will never add to exactly the width of a single shelf; (b) the space lost because it is desirable to have the several volumes of a multi-volume work on the same shelf; (c) some space that must be allowed for books to slip easily off and onto the shelf, in order that the books should not be damaged by readers; (d) space required for flexibility because books are of unequal height. We might attempt to estimate shelf capacity by saying that if the books in the collection were measured in width side-by-side, they must measure no more than 95 per cent of the linear shelving.

Fig. 1. Costs of Housing, Revenue Loss & Shifting of Books at Various Capacity Levels



The 80% & 90% Shifting Cost Points Are Based on an Estimate by Stanley Gwynn. The Rest of the Curve Is Extrapolated.

ing sections of books en masse.[8] At some point—which we shall proceed to determine—the increasing amount of shifting necessarily becomes greater than the money saved by the increased utilization of space.

We may estimate when this decision point will occur as follows: Assume: (1) a particular subcollection consists of one hundred thousand homogeneous volumes; (2) the mean rate of accessions will be twenty-eight hundred volumes per year for this area for at least the next five years;[9] (3) at 90 per cent capacity it costs twenty cents per year to house a book in the conventional stacks; (4) at the expected average capacity level it costs seven cents (six cents for space plus one cent for transfer) to house a book in warehouse storage per year; (5) to shift one hundred thousand books in an operation that requires moving them from shelf to cart to shelf costs 0.5 cents per book, or five hundred dollars.[10] At 90 per cent capacity one-fourth of the collection must be shifted each year to meet new accessions, and at 95 per cent, one-half of the collection must be shifted each year to meet new accessions, while no shifting is required at 80 per cent capacity. A smooth curve of the relationship between capacity-level and shifting costs may be seen in Figure 1. The vertical distance may be read in terms of the amount of shifting per year required at a given capacity level, or the dollar cost of that much shifting for a collection of one hundred thousand books.

The sloping straight lines in Figure 1 may be read as the cost of storing (100-x) per cent of a collection of one hundred thousand books. If a policy decision resulted in a 90 per cent capacity level, the relevant cost is the cost of storing 10 per cent of one hundred thousand books elsewhere. One of the lines shows the cost of housing books in conventional stacks, the other the cost of housing books in storage warehouses.

The optimizing point is that point at which the cost of housing another book somewhere else first exceeds the extra cost of shifting that would have to be paid if the book were kept in the central collection.

The diagram makes it clear that the cost of shifting books is insignificant relative to the cost of housing fewer books in conventional stacks, in order to reduce the amount of shifting. This con-

[8] The author appreciates the advice of Stanley E. Gwynn in developing this estimate. Mr. Gwynn is assistant director for reader's services at the University of Chicago.

[9] $\frac{\text{Accessions this year}}{\text{Present collection size}} = \frac{50{,}000}{2{,}000{,}000} = 2.5$ per cent.

[10] The author appreciates the advice of Kingsley Miner in developing this estimate. Mr. Miner is head of stacks at the University of Chicago.

clusion of course depends upon the estimates of shifting cost and amount of shifting required; the estimates might well require empirical validation. But in any case it is probably fair to say that the equivalent of one complete shift each year is the most that would be required under any policy. It would therefore behoove libraries to allow their conventional stack capacity to range from almost 97.5 per cent to almost 100 per cent each year if accessions would equal 2.5 per cent, and if removals to storage would be the same. Perhaps in practice they would fall slightly below these figures, but the cost of varying 1 per cent or so would not be worth the computing or considering.

The diagram also suggests that institutions that will build new conventional stacks, without reference to storage plans, might do well to house books at almost full capacity in some parts of the available stack space while using other parts of the stack space for office and other purposes, rather than spreading books over the entire available space. As more space would be needed office space could be gradually converted to book space and the cost of the conversion (if planned in advance) would probably permit such a procedure. This should result in important savings if a new library is built with stacks to contain twice the number of holdings at the time of building.[11]

Effect of the Storage Program on Costs of Space per Book. Now if we assume that the average effective working capacity for conventional housing is 98 per cent of shelf capacity, we can easily compute the space requirements and costs for the average book. It will be simply: the cubic space per shelf (including aisle space, etc.) $\times \frac{\text{average book width}}{\text{shelf length}} \times \frac{100}{98}$. The cost of space per book in conventional housing, then, follows from a combination of the cost-per-cubic-foot estimate and the cubic-inches-per-book estimate.[12] Let us take 20 cents per book-year as our working figure.

Note that as soon as a library makes provision for storage housing it lowers the cost of conventional housing. Without a storage building, conventional stacks can never be filled to effective working capacity, since their physical expansion must be in fairly large discrete units. A storage library would permit the conventional library to remain much nearer to 98 per cent, because physical expansion can be more continuous for the storage library.

The Cost of Storage Housing. Empty Space Costs in Storage Housing. The cost for a square foot (or cubic foot) of new storage library housing is considerably less than that for conventional housing, primarily because of cheaper land and building costs. If $1.25 per square foot is the appropriate "rent" figure for conventional housing, 85 cents may be appropriate for a storage library. The costs of maintenance per cubic foot would also be substantially lower in storage housing. It is unnecessary to maintain a standard that will allow patrons to browse and read in comfort. Nor will there be as high custodial costs, since use is less frequent.

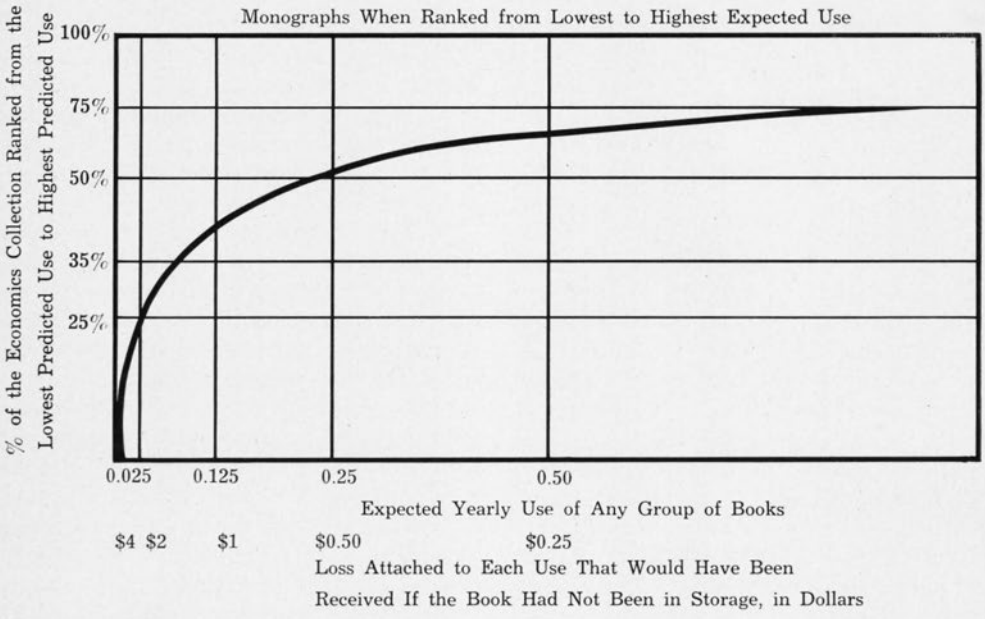
The cost of storage space would be somewhat different if some existing library space were converted to storage use, rather than building warehouses for the stored books.

Space Costs per Book in Storage Housing. On the basis of book-size surveys, and the experience of other libraries with compact storage, it is possible to estimate the space required for the average book

[11] Wilson and Tauber in their book *The University Library* (New York: Columbia University Press, 1956), p. 467, quote with approval Gerould's suggestion (*The College Library Building, Its Planning and Equipment* (Chicago: ALA, 1932), that "the stack be planned to contain shelving for double the number of books contained in the collection when the building is opened."

[12] Library space costs are ordinarily computed on a square-foot rather than cubic-foot basis, but the conversion from one system to the other should present no problems.

Fig. 2. The Marginal Revenue Curve for Economics Monographs When Ranked from Lowest to Highest Expected Use



in storage housing. But a storage building will never be quite full. The likely plan is for frequent space additions to the storage building, and the amount of unfilled space at an average time between space additions will depend upon decisions concerning the size and frequency of additions.

Given estimates of empty space costs, maintenance costs, amount of space required by the average book, and mean amount of unfilled space, we may compute the cost of housing books in storage. We may take six cents per book per year as a working figure.

Costs of Transferring Books to Storage. Another component that affects the relative costs of conventional and storage housing is the cost of transferring books from conventional to storage housing. This cost applies of course only to books *already* within the library system, and not to new accessions.

To transfer a book requires three kinds of labor.

(1) Choosing the books for transfer. We assume that this would be done clerically on the basis of statistical rules.

(2) Physically transferring the books from one location to another.

(3) Altering catalog cards to reflect the new location of the book.

There are two sources of cost data for this transfer cost: Yale's Selective Book Retirement Program, and an exploratory study by Kenneth Soderland (in association with the Library Use Study). Together, they suggest twenty-five cents per *title* as a working figure. Multivolume titles and serials reduce the cost-per-book considerably. Library Use Study data can estimate the numbers of physical book units per title, separately for monographs and serials, in order to get unit costs. We might take as working figures sixteen cents per monograph volume, and ten cents per serial volume. To find the cost relevant to storage considerations we must, of course, allocate part of this cost to each of the years that the book will remain in storage. Assume that the extra cost is one cent per volume per year.

Naturally, the cost of transfer must be a function of the lot size being transferred. The figures estimated above are

for lots sufficiently large that no further economies can be effected.[13]

First Approximate Solution to Storage Decision

If our estimates of cost are satisfactory, we may now formulate decision rules for the simplest possible case. Such a simple case would be one in which (1) the library would accession no more books, (2) any extra conventional stack space would be converted to other purposes such as offices, and (3) the interests of the reading population would remain the same in the future. A collection of books in a discipline that has ceased to produce new work—alchemy, perhaps—might come close to this case.

We begin by constructing a graph like Figure 2. The curve plots data similar to that found in Table 1.[14] Revenue is expressed in terms of expected uses per year of a group of books. We may read from the curve that if we rank books in economics by predicted use from low to high, the group of books that is less than 25 per cent of the curve from the bottom have an expected use of .025 uses per year.

If a library administrator employed fourteen cents per book-year as the cost difference between conventional and storage housing (exclusive of L_a, L_b, L_c), he would store any book for which expected use multiplied by the value of an expected use would equal less than fourteen cents. From the graph we may establish what portion of the books should be sent to storage on the basis of any assumed valuation. For example, an assumed valuation of two dollars per year would rationally send books to storage whose expectation of use is less than 1/15 use per year ($\$2 \times 1/15 = \$.14$), and we see that under that valuation approximately the bottom 35 per cent should go to storage.

[13] In economic terms, the marginal cost curve is that of that point and beyond.

[14] It is a marginal revenue curve.

Interactions and Functional Relations in the Solution

It should be obvious that all statements made about costs in the previous paragraphs are gross simplifications. In fact, all costs must be related to types of book housing, lot sizes, and choices of procedure, as well as to revenue schedules and assorted policy decisions. It will perhaps be most illuminating if we now discuss a few prototypical examples of problem situations, considering the revenue and cost variables at the same time. We will discuss a small, self-contained portion of the collection that has grown to the point where it is economical either to store part of the subcollection, or to build further conventional housing for part of this subcollection. This discussion necessarily will ignore many complicated interrelationships.

We assume that we have established that a sizable portion of the one hundred thousand volumes in economics—perhaps 26 per cent of them—are appropriate for storage, by a first approximation of the difference between their revenues in conventional housing and in storage, as compared to the difference in cost between those two types of storage. We then face two alternatives: (a) build new storage housing for the books to be stored; or (b) pull the books to be stored from the shelves, shift the remaining conventionally-housed books closer together, and store some books compactly in space made by compressing the conventional books. For the moment, we shall make the unrealistic assumption that the cost of storage space would be the same under both alternatives. In practice this would not be the case since new storage housing would provide more shelf space per square foot of floor space than would conventional housing, and the ground rent would be lower.

Building New Space for Storage. Let us look first at the economic ramifications that follow if we remove books to new storage facilities. Under this plan some

part of the subcollection is removed in order to make room for new accessions.

It is important to note that, though 25 per cent of the subcollection may be candidates for selection for storage, there is no gain in moving any more of them to storage than is justified by some reduction in operating costs or by elimination of the cost of new conventional storage space for new accessions. To illustrate, removing 25 per cent of the collection to new storage immediately would impose the new cost of storage housing for them, and there would be loss of revenue L_a, L_b and L_c. But the space that they left vacant in the conventional stacks would not be filled for several years by new accessions. The space in the conventional stacks would still have a cost, whether it were full or not.

It would seem logical, then, to remove only enough of the existing collection to make room for new accessions unless the cost of working with such small lots were greater than the loss of revenue and the cost of storage. The only transfer cost that changes with the lot size is the cost of selecting titles. Recataloging costs per title are quite constant.

The cost schedule of transferring monographs might look like this:

Lot Size	Total Cost of Transferring Lot
2,500	$ 875
5,000	$1,520
10,000	$2,500
. .	. . } linear
. .	. . } increase
. .	. . }

We may then look at the total costs related to two storage plans: (1) transferring 2,500 titles each year, and (2) transferring 5,000 titles each two years.

It appears, then, that if: (1) the cost schedule for transferring books shows no greater economies of scale than we have estimated (and the opposite is likely to be true), and (2) the library added storage space each year, then the library would find that it was most economical to move lots no larger than one year's accessions at a time.

Naturally enough, if a library were even larger than 100,000 books, the same conclusion would be even more inevitable.[15]

On the other hand, if a library unit were much smaller than 100,000 titles it would at some point be economical to store books only biennially, tri-ennially, or even once in ten years. It is here that we put to good use the notion that obsolescence among very old books is not very great: it is just as costly in loss-of-reader revenue to store one thousand books from each of two branch libraries as it is to store two thousand books from one of them.

Converting Some Existing Space to Storage Housing. There is also a distinct set of lot-size alternatives if the library decides to utilize existing space, at least temporarily, for compact storage space. In this case the cost of the shift of books necessary to compress the books each time a lot is removed for storage must also be considered. Since all costs including loss of reader revenue are the same as in the new storage space alter-

[15] The marginal cost of transfer would become constant, while the loss-of-reader-revenue and costs-of-housing are constant-multiple functions of collection size.

	2,500 Books Each Year, Total for Two Years		5,000 Books Each Two Years, Total	
Transfer Cost	$2 \times \$875$	1,750	$1 \times \$1,520$	1,520
Revenue-Loss	$2 \times 2{,}500 \times .036$ $1 \times 2{,}500 \times .036$	270	$2 \times 5{,}000 \times .036$	360
Housing Costs	$2 \times 2{,}500 \times .13$ $1 \times 2{,}500 \times .13$	975	$2 \times 5{,}000 \times .13$	1,300
Total		$2,995		$3,180

native except for, (a) the extra cost of "compressing" the remaining books to make space for new accessions, and (b) an extra cost of retransfer to other storage facilities at some later date, the optimum lot size *must* be larger than if new space is to be built. But in any case the lot size must be at least the number of accessions if old space is to be converted. For example, removing five thousand books and storing them compactly into the room that twenty-five hundred books require when housed conventionally leaves room for twenty-five hundred new accessions.

Removing five thousand books each year means an extra full shift each year to compress the books. The extra shifting cost is $500 for the one-year period, as compared with a housing storage cost of $5{,}000 \times \$.11 = \$550$. There appears to be a very slight advantage to old-stack storage as opposed to storing a book lot of that size in new storage facilities. But the retransfer cost would probably eliminate any strong advantage.

On the other hand, if we remove ten thousand books at once, the total compression shifting cost is the same as for five thousand books. The proper comparison is therefore between $500 extra cost of shifting for the two-year period, against $\$10{,}000 \times .11$, or $1,100, which would be the cost of storing those books for two years in new storage facilities. It therefore is cheaper to compress books and make room for large lot sizes than it is to build new storage buildings immediately.

Note that in any case the number of books stored in converted conventional housing must inevitably become zero in some relatively short time, the length of which will depend on the loss of reader revenue schedule and the rate of obsolescence. If 25 per cent of the existing collection falls into the "storage" category in the next thirty years, then in ten years the new accessions for the exemplar library we constructed will force all stored books out of converted conventional housing and into new storage facilities. This suggests that under most conceivable sets of conditions, libraries would not make space in conventional housing for compactly stored books.

Requirements for a General Solution

The foregoing discussion indicates that a general formal solution to the problem is beyond the scope of this paper. There are several more sources of complexity: (1) a library system is composed of many discrete branch libraries, all of which are filled to different capacity levels at any starting time; (2) the revenue losses vary greatly from subject area to subject area; (3) some new accessions would go directly to storage; (4) lot sizes are discrete, probably with large jumps between possible sizes.

A list of the major variables should be of interest to directors of libraries:

1. *The number of books acquired in year 1,2,3,. . .* . Estimated directly by the director of the library. Perhaps more or less constant at sixty thousand for the University of Chicago at present.

2. *The cost of storage housing in year 1,2,3,. . .* . This is a constant-multiple function of the number of books stored, and we may estimate six cents per book-year. A more precise solution would allow perhaps ten cents for storage in space formerly allotted to conventional housing.

3. *The cost of conventional housing in year 1,2,3,. . .* . It is a constant-multiple function of the number of books housed, and the capacity level. As a working figure we may choose twenty cents per book-year at 98 per cent capacity.

4. *The cost of transferring books to storage from convention housing in year 1,2,3,. . .* . It includes costs of selection and recataloging. It is a function of the total number of books as well as the number transferred in a lot.

5. *The cost of shifting books closer together to make space for compactly stored books in year 1,2,3,. . .* . It is a function of the number of shifts to be made, and the number of books.

6. *The cost of shifting books to accommodate new accessions in year 1,2,3,. . .* . It is a function of the number of shifts as well as the number of books to be shifted.

7. *The cost of present amount of conventional housing space for a year.*

8. *The loss of revenue from books placed in storage in years* up to and including *1,2,3,. . .* . It is a function of the number of books stored, the probability distributions of their expected use, and the schedules of value attached to the loss of use.

We wish to minimize the total costs, including loss of reader revenue, for some specified number of years into the future. (Properly, we discount the cost in future years by the appropriate rate of interest.) All values in the equations to be solved are functions of constants, or of the numbers of books to be stored in each period in new storage housing and in converted conventional housing. We therefore wish to seek the number of books to be placed in each type of housing.

As a practical matter, the director of a library would undoubtedly have to fix as constant many of the variables we have defined, and will find himself faced with a severely limited set of alternatives. For example, he may constrain the system to store an equal number of books each year in order that he may stabilize a work force. Or he may have available a large amount of empty conventional housing space. Or some branch library may be at the bursting point while others are nowhere near capacity. With such a restricted range of choices it should not be impossible or too arduous a task to estimate the values of the variables we have defined and to find the best choice of alternatives. ■■

ROBERT P. HARO

Book Selection in Academic Libraries

Historically, most academic libraries have depended upon the faculty for the selection of library materials. Faculty representatives, appointed to deal with the library, made or approved necessary selection for a particular department of instruction. However, for one reason or another, most academic libraries have in more recent years felt the need to supplement the endeavors of the faculty through the use within the library of bibliographers and subject specialists responsible for book selection. A survey was made to determine the amount and methods of book selection within the library, and results of that survey are reported.

In order to determine how book selection is accomplished in larger academic libraries, a questionnaire was composed and sent to seventy selected academic libraries ranging in size from three hundred thousand volumes to over a million.[1] The questionnaire sought to discover whether the library in question had librarians responsible for book selection, with what department in the library they were associated, what qualifications were desired or required, and whether or not they had different salary scales or other benefits for these specialists. Sixty-seven of the seventy libraries canvassed replied; and of these, sixty-two were engaged in book selection.[2]

While most academic librarians now agree that they (librarians) should engage in book selection, there is at present little agreement on selection methods and procedures, and where such selectors should be located within the library system. The results of this survey demonstrate both agreement on the need for more book selection from within the library and also the lack of agreement on how best to accomplish it.

Most of the larger academic libraries with firmly established area studies, or medium-sized libraries with accelerated programs for collection development, were utilizing bibliographers or subject specialists responsible for the selection of library materials. Of the libraries with over five hundred thousand volume collections, approximately 69 per cent utilized bibliographers or subject specialists who were located in the technical services or were directly responsible either to the director of libraries or to one of the assistant directors; 22 per cent of the remaining libraries within this size-class utilized the heads of divisional reading rooms or subject areas as selectors.[3] Only 6 per cent of these libraries used subject bibliographers or subject specialists in reference departments as selectors. The remaining 3 per cent utilized combinations of the above or other methods. The majority of these libraries also had a pay scale for these selectors different from or higher than other librarians within the same class of position but without book selection duties.

[1] For the purposes of this article, college, research, and university libraries will be referred to collectively as academic libraries.

[2] The term "book selection" as used in this article excludes the selection and purchase of reference materials and occasional general items for the library.

[3] The term "subject-divisional arrangement" here refers to those libraries that shelve all library materials in broad subject sections, such as all social sciences materials on floor one, humanities on floor two, and etc.

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If employed as a selector, approximately 60 per cent of the librarians with both a library degree and an advanced degree in a subject field were on a different or higher salary scale. In libraries that located selectors in reference departments, however, 76 per cent were on the same salary scale as other librarians in that department. In addition, 56 per cent of the selectors located in reference departments received no reduction in the number of weekly hours they were required to appear at the public reference desk to allow for selection duties.

Ostensibly, selection by librarians functioning as subject specialists in reference departments or some other public services position appears an excellent and perhaps economical approach. Where the particular academic library is undergoing a period of accelerated growth and rapid collection development for new or expanded graduate and area studies programs, however, latent problems eventually demonstrate the weaknesses of such an approach. Problems of administrative control, overlapping of authority and supervision, duplication of effort by selectors and acquisition/order personnel, conflicts in reference desk duty and selection assignments, to name but a few, make the location of selectors in one of the public services departments something only to be undertaken with considerable care and planning. In-depth and expensive accelerated collection development demands block purchases, regular and sometimes extensive book purchasing trips and, obviously, considerable bibliographic competency and sophistication. If possible, librarians involved in this type of selection or collection development should be true specialists with a rich language background, graduate-level subject competence and/or have an intimate knowledge of the book business, market, and out-of-print trade.[4] Of course, the choice of location for selectors within the library system depends upon other factors, such as the size of the academic institution; size, arrangement and growth rate of the library's collection(s); expansion of curricula to include graduate programs and developing area studies; archival programs; and special collections.

The results of this survey demonstrate that most academic libraries with a subject-divisional library arrangement usually prefer to have the heads of such divisions, reading rooms, or sections function in a dual capacity as both reference librarians and book selectors, a system that is not altogether without its advantages and merits. Small libraries that do not have a subject-divisional library arrangement usually tend to favor the location of book selectors in their reference departments. Most of the larger and rapidly growing academic libraries approach the problem of book selection and the location of selectors within the library system from other directions, however, such as bibliographers in acquisition departments; curators; separate book selection or collection development departments; area specialists; or bibliographers.[5]

SURVEY OF BOOK SELECTION IN ACADEMIC LIBRARIES

Total Number of Questionnaires Sent Out	70	
Total Number of Replies Received	67	
Number of Libraries Engaged in Book Selection	62	
Types of Positions Held by Selectors	No.	Per Cent
Subject bibliographers or subject specialists in reference departments	8	13
Subject bibliographers or subject specialists in acquisition departments	13	21
Bibliographers (responsible only to the director or assistant director)	11	18

[4] Philip J. McNiff, "Foreign Area Studies and Their Effect on Library Development," *College and Research Libraries*, XXIV (July 1963), 295.

[5] Cecil K. Byrd, "Subject Specialists in a University Library," *College and Research Libraries*, XXVII (May 1966), 191-93.

Heads of divisional reading rooms or subject areas (public services personnel)	15	24
Department heads other than in public services	5	8
Separate book selection departments	2	3
Other methods	8	13
TOTALS	62	100

REQUIRED QUALIFICATIONS FOR SELECTORS	No.	PER CENT
Library degree with appropriate undergraduate training or subject competence	15	24
Library degree with graduate work and/or advanced subject training	12	19
Library degree with an advanced degree in subject field	21	34
No library degree but with appropriate undergraduate training or subject competence	2	3
No library degree but with appropriate graduate work or advanced degree in subject field	4	7
No required qualifications for selectors	8	13
TOTALS	62	100

APPOINTMENTS FOR SELECTORS	No.	PER CENT
Regular twelve-month appointment with one-month paid vacation	59	95
Ten month appointment	3	5

SELECTORS IN PUBLIC SERVICE —REFERENCE DESK DUTY	No.	PER CENT
Reduced number of hours at reference desk allowed for selection duties	11	49
No allowance made for reduced number of hours at reference desk to perform selection	14	56

SELECTORS IN PUBLIC SERVICE —SALARY SCALES	No.	PER CENT
Pay differential for selectors (higher or different scale)	6	24
No pay differential for selectors	19	76

STATUS OF LIBRARIANS IN INSTITUTIONS SURVEYED	No.	PER CENT
Academic status for librarians	41	62
Faculty status for librarians	18	27
Other	8	11

NOTE: It is interesting to note that of the libraries that do not engage in book selection, four out of the five have neither academic nor faculty status for their librarians. ■■

JULIE H. NOTT and MARJORIE WHEELER

Library Service by Contract: A Joint Venture

A mutually beneficial solution to the problem of university libraries' service to smaller libraries is exemplified by a long-term contract between the Graduate Research Center of the Southwest and Southern Methodist University. For two years the libraries in these research and educational institutions, located fifteen miles apart, have enjoyed such a contract, characterized by rapid messenger service, an annual contribution for acquisitions and cost-of-service reimbursements, and a full-time librarian's salary furnished by the special library. For special libraries with heavy demands, this type of agreement may be a realistic arrangement in which the smaller library "pays its way."

DURING THE PAST FEW YEARS there has been interest in the problem of university service to special libraries. The dilemma of the university library in trying to meet increasing demands of smaller libraries without jeopardizing faculty and student service has been a difficult one. Most university libraries have continued to furnish interlibrary loans without charge, free reference service, and photocopy at cost—thus serving on a direct-cost basis.[1] A more realistic solution is that exemplified by Stanford University in establishing its Technical Information Service for industry based on a fee per item delivered. This has proved quite successful in recovering both direct and indirect costs.[2] The present paper describes another approach to the problem—that of service by contract between a university library (Southern Methodist University) and a nearby special library (Graduate Research Center of the Southwest).

Southern Methodist University (SMU) only recently celebrated its fiftieth anniversity. It is a university of about seventy-eight hundred students offering graduate degrees in an ever-increasing number of fields. It has four libraries, the newest of which is the science library, built in 1961. It was partially financed by local industrial benefactors and is dedicated to the support of academic and industrial research in the region.

The Graduate Research Center of the Southwest (GRCSW) was chartered in 1961 by a group of Dallas businessmen concerned with the need to enhance the development of graduate education in science and engineering in the Southwest. It was established as a nonprofit educational institution with a two-fold purpose: (1) to serve as a center for postdoctoral study, and to cooperate with colleges and universities in the region in training graduate students; and (2) to sponsor basic research in fields of major importance to present-day science

[1] Natalie N. Nicholson, "Service to Industry and Research Parks by College and University Libraries," *Library Trends*, XIV (January 1966), 262-72.

[2] Jack Pooler and David C. Weber, "The Technical Information Service in the Stanford University Libraries," *College & Research Libraries*, XXV (September 1964), 393-99.

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and technological development. Interdisciplinary divisions in various degrees of development have been formed in the fields of atmospheric and space sciences, geosciences, mathematical physics, biology, and materials sciences.

To date the GRCSW policy has been to maintain a small specialized library. Its broad objective is to "provide library service equivalent to that of a large university library through ties to a coordinating area library system."[3] Consequently, a contract was executed, effective September 1964, between SMU and GRCSW, the pertinent aspects of which are as follows:

GRCSW is responsible to SMU for:

1. $5000 annual fee to be used for SMU acquisitions; GRCSW has the privilege of making recommendations.
2. Salary (plus normal SMU fringe benefits) for a full-time librarian to work in the SMU science library exclusively for GRCSW.
3. 15¢ per page for Xerox 914 reproduction and comparable charges for use of other photolab equipment.
4. Messenger service twice daily between SMU and GRCSW.
5. Miscellaneous expenses including a 20 per cent overhead charge, postage, and telephone costs.
6. Direct costs of material obtained in lieu of interlibrary loans from other libraries.

SMU is responsible to GRCSW for:

1. Loan of their books, journals (photocopies when requested, or when article is short), reports, government documents, and maps.
2. Interlibrary loan service for material requested which is not in SMU libraries.
3. Office space and supplies for librarian working for GRCSW.
4. Supporting capabilities of SMU science library staff.
5. Study room reserved for GRCSW personnel.
6. Fifty copies of each monthly acquisitions bulletin.

GRCSW personnel may initiate requests from SMU by:

7. Photolab and equipment for reading microfilm, microfiche, and microcards.

1. Contacting their librarian at GRCSW.
2. Phoning their librarian at SMU (a telephone recorder provides the means for leaving requests, day or night, if no one is in the SMU office).
3. Going to SMU to use and check out material personally.

Most requests are initiated at the GRCSW library, for much of what is needed may be found there. The two librarians (at SMU and GRCSW) are in constant telephone contact.

Both SMU and GRCSW feel that the contract has been mutually beneficial. In the fiscal year ending June 30, 1966, a total of 5,261 items was supplied by SMU; of these, 550 items were obtained from other libraries. GRCSW paid a total of approximately $20,200 to SMU during the same time period, of which $5000 was invested in acquisitions.

The obvious advantage to GRCSW is the availability of a large collection of library materials conveniently located and efficiently serviced, furnished on a mutually agreed cost basis. The SMU science library, besides pursuing its own goals of academic service, benefits by continuing to develop equipment, personnel, and experience in its broad plan of supporting academic and industrial research in the region. Both participants have found that an annual contribution for acquisitions and a cost-of-service fee rather than a charge per item has simplified the quarterly billing procedures. An additional advantage has been that of having a GRCSW librarian on the job at SMU, for this keeps GRCSW requests from disrupting service for faculty and students at SMU.

[3] Graduate Research Center of the Southwest, *Plan for GRCSW Library Service*, [1964], p. 1.

Although the contract has been extremely successful in its two years of existence, the librarians involved feel that there are questions which could be posed for future consideration by both institutions:

1. Should cooperative acquisitions be developed to a greater extent? Too often the same material is purchased by both libraries primarily for use by GRCSW scientists.
2. Is the financial arrangement fair to both institutions?
3. Has GRCSW become overly dependent on SMU to the extent that it has not developed its own resources adequately or efficiently?

This article was written in response to considerable interest shown in the joint venture to provide adequate library service for GRCSW. It appears to be a workable, practical solution to the problems of university service to special libraries. Perhaps other libraries could benefit from such an arrangement to their mutual advantage. ■■

IRVING E. FANG and JAMES R. LEWIS

Using a Computer to Print a Dissertation

A program was written for an IBM 1401 computer for the printing-out in standard acceptable format of a doctoral dissertation, and a successful pilot project was carried out. Several advantages over conventional typing of dissertations are cited, including simplified correcting of errors and justification of right margin. The only apparent disadvantage is cost, but where free machine time is available there is little if any cost differential.

IT IS WIDELY ACCEPTED that the final copy of a dissertation must be typed. With the advent of the computer and its high-speed printer, the typewriter may still be preferred, but it is no longer needed.

To test the capacity of a computer to produce a manuscript acceptable to a university archivist, the second author of this paper wrote a program which printed the dissertation of the first author. The required three copies were run off and accepted by the UCLA archives office. Then two dozen additional copies were run off for binding.

The pilot project was begun after a review of the limits of a mere typewriter for so grand a thing as a dissertation. They include:

1. The typist usually works under severe deadline pressure—the time available between the doctoral committee's acceptance at the final oral exam of the penultimate dissertation copy and the last hour the archivist will accept the completed manuscript in three copies for a graduation in June, or whenever. The hapless candidate cannot begin that last neat version prior to his orals without some risk, because a committee member's suggestion that a page be deleted here or a footnote added there will ruin the careful sequencing of pages and footnotes.

2. Each page of the finished version is supposed to be letter perfect. The typist who cannot neatly correct an error at the bottom of the page is obliged to retype the whole page.

3. The right margin of a dissertation manuscript is more ragged than the usual typed report. For this, blame the narrow confines of the dissertation page and the typist's natural reluctance to chance an overstep.

4. Additional copies of the dissertation are expensive, if printed offset; or they are of less than perfect quality, if any of several commercial duplicating processes are used. Here, too, deadline pressures mount as printers in university communities try to keep up with the late May rush.

The present pilot dissertation printed by computer seemed particularly appropriate to its new medium. Its title: "A Computer-Based Analysis of Television News Writing Style for Listening Comprehension." Three computer programs were written in the Autocoder language to print the dissertation.

1. Phase I of The Thesis Writer read punch cards onto tape.

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2. Phase II of The Thesis Writer printed the tape.

3. The Program Lister, which is quite simple, printed a tape of the fifteen computer programs used in the analysis.

Each of the three programs used to print the dissertation was written for an IBM 1401 with a 4K memory, one tape drive, and such special features as index registers and high-low-equal compare. Two computers with this configuration were available to the authors at the UCLA Computing Facility.

Weeks before the doctoral committee met and, indeed, weeks before the nearly four-hundred-page dissertation was finished, a keypuncher began her work. For convenience, each sentence was punched on a separate card, or on several cards if the sentence ran long. Then the next sentence began on a fresh punch card.

The list of instructions, which forms part of the Phase I program, was varied enough to send the printer to any point on a page and, once there, to print any character, to capitalize, to underline, to overprint, either the same character for a heavier impression or a different character, such as the letter O with a / through it to distinguish the alphabetic O from the numerical 0. The program also superscripted footnote numbers, provided subscripts, switched from double to single spacing, and indented left and/or right. However, the program was not designed to print footnotes at the bottom of the page. Instead, a table of notes was placed at the end of each chapter. It is not impossible to place footnotes. It is inconvenient, so the program was written without that option.

The computer kept track of page numbers and footnote numbers internally; the insertion of an extra footnote in the middle of a chapter required no repunching of subsequent footnote cards. The keypuncher just inserted the sentence containing the extra footnote into the deck, and all the following footnotes in the chapter were automatically bumped up by one. After listing the notes at the end of the chapter, the computer's internal footnote counter was instructed to zero itself in preparation for the next chapter. The page numbering counter, on the other hand, continued to increase. When the computer sensed the bottom of the page, it automatically skipped to the next page, numbered the page in the upper right corner, and proceeded with the printing of the deathless prose. When the signal was given for a new chapter, the page number went to the bottom center of the first page instead of the upper right corner. For the preliminaries of the dissertation, provision was made for Roman numerals and unnumbered pages.

In summary, the computer does almost anything the typewriter does, and does it neater and faster. It is neater in three respects:

1. A keypunch error is corrected by punching a new card, an operation taking a few seconds—about the time needed to type one line. There are no erasures.

2. Margins are justified both left and right. The computer fills a line until it senses a word that will not fit. While that word is reserved for the next line, the computer acts like any veteran linotype operator, placing spaces between the words alternately right and left, starting at the ends to avoid a ragged gap of white down the center of the page. The program provided a simple means of changing to normal spacing for anyone who did not want right-justification.

3. There is no guesswork about the bottom of the page. The computer printer goes to a preset row, and no further, then skips to the next page.

The cost of using a computer to print a dissertation is certainly important, but at many colleges and universities it will not be the all-pervading factor because a computer may already be available on the premises for student use. If free computer time and free keypunch time

can be had, the doctoral candidate's costs will be for keypunching, punch cards, and thesis-quality computer double-track paper, assuming that he owns a copy of the object decks of a working program. A competent keypuncher earns about $2 an hour. After a little practice with the special characters for paragraphing, underlining, etc., a keypuncher can work almost as fast as a typist, who has her own problems such as erasures. Punch cards are quite cheap. University computer centers may provide them free. Not so with paper. If the archivist requires one copy on 100 per cent rag bond, the candidate may spend, as one of the authors of this article did, some $300 for a minimum order, which turned out to be enough rag bond paper for a dozen four-hundred-page copies. The paper consists of continuous-feed sheets with a track along each side which tears away to leave 8½ × 11 inch pages. The rough edges do not matter; the bookbinder trims all four sides. If the dissertation-by-computer idea were to become popular, the paper cost would drop sharply. Either the paper suppliers or the universities themselves would then stock 100 per cent rag bond, and candidates could buy only as much as they needed.

If computer time had to be paid out of pocket, the cost of printing a dissertation would soar. Using the special chain that prints both upper and lower case letters, the IBM 1401 computer and 1403 printer generate about three pages a minute using Phase II of The Thesis Writer program. One copy of a four-hundred-page dissertation using this program would take more than two hours to print. Prior to the printing, additional hours would be needed to load the punch cards onto tape using the Phase I deck.

It may be said generally that if machine time were free, the cost of printing a dissertation by computer is approximately comparable to established methods, and may indeed be cheaper.

Let us note at this point that universities and private business firms can use their own computers for annual reports and service manuals. This means might be especially attractive to computer-oriented companies.

As new as all this may seem, the advances in computer technology can make even this method obsolete before long in both its hardware and software. Input devices for the newest generation of computers, such as IBM's System 360, do away with keypunching. A typist at a special machine types a sentence or a paragraph which appears on a television-type monitor in front of her as she types. If she made no typing mistakes she enters the words into the computer by pushing a button. If she has erred, she wipes out her error with her backspace key. With on-line traffic patterns, thirty typists sitting in thirty different rooms could feed thirty dissertations into the same computer at the same time.

To sum it up, the wonderful world of computers can be of service to doctoral and master's candidates. This statement does not imply that the typewriter is a poor machine. It is just that the computer is a better one. ■■

RUSSELL E. MILLER

College and University Archives: the Experience of One Institution

The organization and administration of the records of institutions of higher education is a field which is attracting increasing attention of college and university librarians, partly because of the parallel growth of interest by professional historians in the area of American educational history. This article discusses the author's experiences in organizing the archives of Tufts University preparatory to writing its history. A Statement of Archival Policy adopted by the Tufts trustees is appended, which might provide practical guidance for other institutions.

UNTIL COMPARATIVELY RECENTLY, the organization, administration, and maintenance of the records of institutions of higher education have not been major concerns of most colleges and universities or of their librarians. What materials do exist are, more likely than not, locked away in the office of the trustees, stuffed in a closet of the administration building, or relegated to a dusty corner of the library where they are disturbed only when (1) spring housecleaning (or moving) time rolls around, or (2) an alumnus of the class of 1907 writes in to make sure that the "beanie" he wore as a freshman and proudly presented to his *alma mater* on the occasion of his thirty-fifth reunion is still intact. What archives do exist have occasionally, in the past at least, been but imperfectly exploited by a retired graduate who has determined to devote his declining years (and failing memory) to producing a series of filiopietistic anecdotes in which his *alma mater* will take delight and which will (possibly fortunately) reach only a limited audience of fellow alumni. More and more frequently in recent years, however, it has been the professionally trained historian who has disturbed the tranquility of the archives (or of their custodians), in quest of the primary documents indispensable for scholarly research and publication. Institutional histories reflecting not only sound and thorough scholarship but representing significant contributions to the growing and maturing fields of American social and intellectual history have come off the presses in increasing numbers in the past few decades. By a rough estimate, about one-third of the more than fifteen hundred degree-granting institutions of higher learning in the United States have a written history of some sort. A significantly lessening proportion are concerned largely with student pranks, athletic victories, absentminded professors, or the Old School Tie in general.

It is gratifying and encouraging to see growing interest not only in scholarly institutional history but in increasing attention paid by librarians to archival matters. Indicative of this trend was the choice of the topic "University Archives"

Dr. Miller is Professor of History, Historian, and Archivist at Tufts University, Medford, Massachusetts. *The substance of the present article was presented at Tufts in March 1966, at a meeting of New England College Librarians.*

for the Eleventh Allerton Park Institute, sponsored by the faculty of the graduate school of library science of the University of Illinois in the fall of 1964.[1] This writer, who was fortunate to have been able to attend the conference, returned from the stimulating and informative meetings and accompanying shop talk with a set of tentative conclusions. It seemed clear that there was no one set of "ground rules" that would apply to all college or university situations. It seemed safe to conclude, also, that there was no uniformity as to the size, importance, or condition of the collections; they range from the most systematic and elaborate to literally nothing at all. The consensus was that scientific archival management, so far as it applied to institutional materials, was either in its infancy or has been sadly neglected by both librarians and teachers of library science—and that something should be done about it, although no one seemed to have the ideal blueprint at hand.

The discussion that follows is in no sense offered as a solution to all of the problems raised at the meeting in 1964. Even less can the following be considered a model for other institutions. Yet at the same time, it is to be hoped that a brief report of the experience of one relatively small university might be instructive to those who contemplate the establishment of a collection, no matter how modest.

It is suggested that at least five ingredients are necessary to a successful archival operation. First, there must be something archival to gather, preserve, and make usable by someone else. This presupposes, in turn, some person (or persons) sufficiently interested in and aware of the potential or actual value of archival materials to do something about it. No matter how young or small the institution, there is, by the very nature of the establishment, at least a small corpus of relevant materials—if nothing more than a few battered catalogs and some aging faculty minutes. As to the personnel, the institution's librarian, or at least a member of his staff, is almost invariably involved, willingly or not. Ordinarily, although not always, one or more members of the department of history are interested, or can be interested, in the archives of the institution.

A second indispensable is some kind of a workable definition of what is properly archival. Here some of the most basic and knotty questions arise, and sweeping generalizations become misleading if not downright dangerous. College or university collections, it must be remembered, are distinct from public or state archives, which pose their own problems of housing, classification, financial support, preservation, and access. It should also be noted that the term "archives," whether public or private, should be broadly construed. They are not just serried rows of government documents, or anything not current, or items in manuscript form only. Institutional archives comprise those records and other evidences, written or pictorial, no matter what their physical form (or condition), which are associated with the history of a particular educational entity *per se*. This, in turn, raises a multitude of related questions. Should all existing written efforts of faculty and alumni, scholarly or otherwise, be included? Are what is usually called "memorabilia" properly archival, or should archives double as museums? On many college campuses, there are from a few to hundreds of art objects (some of which ought probably never to have seen the light of day), ranging from decrepit portraits of assorted Founding Fathers down to shovels used for ground-breaking exercises for a new gymnasium or for burying for future ages the records of the class of 1884. Most people agree that

[1] All but one of the papers presented at this conference, held November 1-4, were published in a booklet in 1965. The collection was edited by Rolland E. Stevens and was distributed by the Illini Union Bookstore, Champaign, Illinois.

such items should be kept—but by whom? "Let George do it" frequently turns out to be the reluctant librarian.

Granted the existence of archival material, and some initial decision as to inclusion (and exclusion), the collection must be sufficiently well organized and accessible to be of some value to someone besides the archivist. Even though the bulk of the materials will never rival those in the National Archives, and may never be used outside college walls, they must be usable. This means the establishment of a coherent and logical filing system and the creation of such reference aids (for example, indexes or card catalogs) as will make for both simplicity and utility.

Indispensable to a successful archival arrangement is a set of institutional officers sufficiently educated to and sympathetic with the whole concept to assure more than moral support. This means provision for both an administrative and physical home for the archives, plus some financial assistance and any other tangible evidence of good will—including provision of clerical assistance. Equally vital to archival success is a satisfactory working relationship between the archival office and the library, and particularly the librarian. This relationship must be based on a coherent and mutually satisfactory chain of command, preferably committed to paper, yet flexible enough to allow for actions and decisions not anticipated but often quite necessary.

Finally, a rationale or justification, philosophical or otherwise, is needed for the very existence of archives. It is for this reason that mention was made earlier of the need to educate people sufficiently—particularly administrators—to their value, to make them do something about archives. Certainly current support continues to be forthcoming from the field of historical scholarship and the intensified interest in the history of higher education.

Moving from generalities to specifics, the remainder of this discussion is devoted to the archival experience at Tufts University. This case study of one institution probably reveals as typical a situation as can be found in an area that is still suffering from growing pains, and that has made a late and rather sporadic appearance on the academic scene. Two of the five indispensable ingredients mentioned above were present at Tufts at the outset: the whole development had the wholehearted cooperation and support of the administration and trustees, from an open-ended special account against which to charge necessary expenses when the project was begun, to continued financial support and encouragement after the archives became a reality; and an exceptionally harmonious relationship existed between the archival office and the university library staff, and particularly the librarian. When spacious quarters for the archives were provided in the new university library opened in September 1965, the archivist was consulted in both the preliminary and final planning.

The archives as presently constituted were born out of the suggestion of the writer who, as a "card-carrying" historian with an interest in American educational history, became eligible for a sabbatical leave and simultaneously became convinced that a comprehensive, scholarly history of the institution was a desideratum. The president received the suggestion enthusiastically, and assured the writer access to anything that might be needed. This immediately raised a question: Where was the raw material out of which such a history could be constructed, and how much was available? It was soon discovered that there was no such thing as an archival collection, but fortunately there was a senior member of the library staff (and an alumna) who collected items relevant to the institution as an extracurricular activity and answered questions about it as best she

could. There were also unearthed in the administration building complete sets of faculty and trustee minutes and various supporting documents. It was rapidly realized also that no New Englander ever threw anything away; the erstwhile author soon discovered that he had too much rather than too little with which to work. Consequently, approximately three years (beginning in 1958-59) were spent in collecting archival materials, setting up a filing system, and providing a locator index which turned out to be one of the most frequently used parts of the archives. In the meantime, the writer, much sobered by the magnitude of the task he had inadvertently set for himself, had long since returned to his regular academic duties, although some readjustment was made in his teaching load to enable him to carry on his new activities.

Certain features of this largely bootstrap operation illustrate the typology of institutional archives. It had been discovered that no systematic attempt had been made to establish archives for an institution entering its second century (it had been chartered in 1852); much of what material had been collected had been preserved largely through the efforts of a loyal graduate of the school as a self-appointed assignment; the organization of the archives, when it was begun, was the outgrowth or by-product of another project; and the so-called archivist, with no technical or professional training in the field, was serving in a strictly *ad hoc*, part-time capacity. The trustees, after due deliberation, and on the initiative of the university librarian, officially recognized the existence of the archives in February 1964, and effective in September 1965—a month before the manuscript of the history of the institution was completed—created the post of university historian and archivist.

One of the great merits of the arrangement as worked out was that the writer of the history was simultaneously the organizer of the archives, and therefore was in the best possible position to know what resources existed and where they were to be found. Another advantage was the establishment as soon as practicable of formal machinery and relationships between the library and the archives housed in it. The first step was the creation (again at the suggestion of the university librarian) of a university archives committee, established by the president early in 1962. After a series of informal meetings a preliminary determination was made of what was to constitute archival materials. Fourteen categories were eventually established, with appropriate subdivisions. For preservation and safe-keeping, budgetary provision was made for the microfilming of selected major records, to be updated at two-year intervals. Appended is the statement of policy on university archives adopted by the Tufts trustees which might be of some interest and, with appropriate adjustments to local circumstances, could conceivably be used elsewhere. It has so far proved a reasonable and workable set of guidelines.

Aside from serving their original purpose—making possible the writing of a history of the first hundred years of the institution—the archives are serving a continuing function. An average of one inquiry a week is being received; about half of them come from outside the school. Two part-time assistants (one paid by the hour and the other devoting half her full-time position on the library staff) very adequately supplement the efforts of the part-time archivist. As would naturally be expected, very few of the dozen or so projects simultaneously under way will ever be completed (*e.g.*, the processing of non-current student records and the indexing of minutes and student publications) but at least a home can usually be found for virtually everything; above all, the materials can be made available to interested and responsible persons.

Much remains to be done, and not all

problems have been solved. For example, the goal of centralizing all archives in a not-so-large but surprisingly complicated institution (with numerous professional schools) has not been fully achieved; there are the problems of obtaining a measure of uniformity in record-keeping and disposition; and the task of educating the numerous components of the university about the work of the archival office is far from complete. One great step was taken when excellent cooperation was established with the university's alumni records office which houses and services materials concerning any living person associated with the institution.

In a field such as this, it is all too easy to become immersed in routine and details, and to forget the fifth indispensable ingredient of an archival collection mentioned earlier—the rationale behind it. With a certain amount of audacity from a person whose only training in the field has been experience, the writer offers the following considerations. No institution, educational or otherwise, springs full-blown; it is a product of evolution, development, cumulation; it is built on the past. Hence, archives become record depositories of what has happened; they serve the elemental function of preservation for its own sake. Institutional archives also serve as a storehouse of retrievable information for any legitimate purpose—from furnishing biographical data about a deceased alumnus to answering inquiries from within the larger academic community. Finally, the archives of the kind described here may—and do—serve increasingly as a vital resource for scholarly researchers in the ever-widening realm of social and intellectual history. Archives serve not only the present but furnish the grist for posterity.

Policy on Universal Archives*

The university regards as matters of official concern the collecting, preserving, and organizing of the records, documents and reference sources relevant to its history. The archival and historical repositories that now exist within the University have been developed on the initiative of individuals and as part of the normal office practices of the various departments and divisions. Separately, within their naturally imposed limits, and in the aggregate, these repositories are comprehensive in scope and rich in archival resources. These resources are at the same time occasionally both incomplete and duplicated; there are no adequate assurances for their consistent and continued development and maintenance, and there are no consistent standards being applied for their selection and preservation.

To ensure that all archival materials of importance are retained, adequately housed, and organized for use, the University adopts the archival policies and practices outlined below:

1. An official Archives Collection will be established to serve as the depository of archival and historical materials for all the divisions and departments of the University.
   a. The Archives Collection shall be considered a department of the University Library and shall be housed in the main University Library.
   b. The University Archivist shall be appointed by the President after consultation with the Archives Committee to maintain, organize, and service the Archives Collection. He shall be a member of the University Library staff and be responsible to the University Librarian.
   c. If the University Archivist is not a member of the Department of History, a member of the faculty of the Department of History shall serve in an advisory capacity to the University Librarian on matters pertaining to the Archives.

2. Status, duties, and responsibilities of the University Archivist.
   a. The position shall be part-time.
   b. If a member of the faculty is appointed, his normal academic load will be so adjusted, in consultation with and with the consent of his department chairman, that up to one-third of his time will be devoted to archival activities.
   c. The Archivist shall be immediately responsible for the maintaining, organiz-

* Adopted by the Executive Committee of the Trustees of Tufts College, February 13, 1964.

ing, and servicing of the University Archives, as a part-time member of the staff of the University Library, ultimately responsible to the University Librarian. The Archivist shall also be responsible for answering inquiries and otherwise making available to authorized users the contents of the Archives, in accordance with policies established by the Committee on Archives.

d. Facilities will be provided in the University Library for the use of the Archivist.
e. Part-time secretarial and research assistance for the Archivist will be provided, if necessary.
f. Provision will be made in the University Library budget for secretarial services, supplies and equipment for the Department of Archives which shall be in addition to the present budget of the University Library.
g. The Archivist shall be responsible for making periodic reports to the University Librarian.
h. The University Archivist shall be a member of the Committee on University Archives, *ex officio*.

3. The Collection will be essentially a non-current collection of the types of materials outlined in paragraph 4 below.

a. For general purposes all copies of any material incorporated in the Collection will be considered archival copies. Technically, copy properly designated as "archival" must be the original document and not a copy, and to the extent possible and desirable it will be the original documents that will be deposited in the Archives Collection. Carbon copies of outging letters will, of course, be included.

4. The following types of materials will be included in the Archives Collection:

a. Minutes and records of the Trustees of Tufts College.
b. Minutes and records of the several faculties and committees of the University.
c. Presidential correspondence.
d. Official reports, periodic and special.
e. Catalogues and bulletins, general and special.
f. Special publications (*e.g.*, Tufts Carnegie Self-Study, press releases).
g. Non-current student records.
h. Student personnel folders from the files of the Deans and of major departments to be deposited with the Archives under policies and procedures to be determined.
i. Student publications.
j. Records of student organizations and activities.
k. Non-university publications:
    1. Newspaper clippings and scrapbooks (on a selective basis).
    2. Pamphlets and books dealing wholly or in part with Tufts (to be made available in both the general and the archival collections. If materials exist in only a single copy the required duplicate is to be obtained by photocopying or microfilming).
l. Pictorial materials.
m. Association materials.
    1. Theses (both undergraduate and graduate).
    2. Publications with the Tufts imprint.
    3. Publications of the Alumni Association (Materials issued by Tufts Clubs of the various cities in the country are not to be solicited but will be added if they are offered).
    4. Records of organizations associated with the University.
n. Appropriate material from interested alumni.

5. The following categories of material will not be incorporated in the Archival Collection unless their substance relates to the University:

a. Publications by faculty.
b. Publications by alumni.
c. Materials deposited because of a unique association (*e.g.*, the P. T. Barnum Collection).

6. Because of their importance to the archival needs of the University and for reasons associated with their uniqueness, the form in which they were issued, or the quality of paper used, certain categories of archival materials will be microfilmed.

a. The positive copy of the microfilm will be deposited in the Archival Collection and the negative copy will be deposited for security purposes in storage outside the University premises.

b. The following materials have been initially selected for microfilming:
   1. Minutes of the Meetings of the Trustees of Tufts College.
   2. Minutes of the Meetings of the Faculties with selected supporting documents (including standing committee reports, of which only one copy is known to exist).
   3. The President's Annual Report to the Trustees.
   4. The Tufts Weekly (student newspaper).
   5. The student literary magazine.
   6. Student records (transcripts, etc.).
   7. Tufts Self-Study reports and documents.

7. Official records and documents not published or intended for general distribution will be considered confidential and access to them will be limited to designated and authorized individuals.

8. There shall be a standing committee on University Archives appointed by the President, consisting of the University Librarian (Chairman); the Senior Vice President (Provost); the University Recorder; the University Archivist, *ex officio;* a faculty advisor from the Department of History; and such other members as the President deems necessary. Among its duties shall be (a) the establishment of procedures by which the archival materials listed above are obtained from divisions, departments, and offices; (b) the determination of what other materials (*i.e.*, not listed above) shall be deposited in the Archives; and (c) the establishment of policies governing access to and use of the several categories of archival material. ■■

DIMITY S. BERKNER

Two Library Work-Study Programs in the Boston Area

This article examines training programs at the Harvard University library and the Boston public library, where participants simultaneously gain experience at preprofessional positions while studying at a graduate school of library science. The programs' goals and progress are assessed from two points of view (1) the library personnel directors, and (2) the college graduates working in these intern programs. The result of this survey show how other research libraries can establish similar programs for the recruitment of high caliber personnel into librarianship.

VARIOUS WORK-STUDY PROGRAMS exist to attract prospective librarians and to help alleviate the shortage of competent preprofessional assistants. The literature on this type of program is comparatively scanty, however, and communication among libraries having such programs seems poor. This article surveys two major, full-time, work-study programs in the Boston area and may be of some introductory use to libraries contemplating the establishment of similar programs for college students studying library science. The plan at the Harvard University library is known as an intern program, and at the Boston public library it is called the Pre-Professional Library Service.

In the first part of this article, the Harvard and Boston public library plans will be analyzed in terms of their history, goals, requirements, and benefits, based on information obtained by interviewing the librarians in charge of each program.[1] To study these programs in action, a five-page questionnaire was sent to each intern, asking about his background, present assignment, responsibilities, and degree of satisfaction with the program. A summary of these questionnaire responses constitutes the second part of this survey.

The Harvard University library intern program was formally begun in January 1961, with five interns; by April 1966, it had expanded to forty-one interns. The program is expected to level off at a maximum of fifty in the next three-to-five years. At present the Harvard library system includes about seven and a half million volumes in ninety-four libraries (mainly in the Boston-Cambridge area) and employs approximately two hundred librarians as well as supporting staff to serve about 25,000 students, faculty, and researchers.

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[1] I wish to thank the following persons for their kind assistance and full cooperation, without which this paper could not have been written: H. Gordon Bechanan, Associate University Librarian of the Harvard University Library; Catherine M. MacDonald, Library Personnel Officer, and Edmund R. Ettele, Supervisor of General Library Operations, both of the Boston Public Library; as well as all the interns who responded to the questionnaire sent to them.

The present preprofessional program at the Boston public library was established in 1938. Data on the early period is not available, but fifty-two persons were employed under the program in 1959, seventy in 1960, forty-six in 1964, and twenty-nine in April 1966. The preprofessionals are employed throughout the BPL system, which includes the huge central research library, twenty-seven branches, and three bookmobiles, together containing over two million volumes. The population served is 698,080, and 172 librarians staff the library system.

The goals and purposes of the Harvard intern program are expressed by H. Gordon Bechanan, associate university librarian, in the letter sent to applicants:

> The Program . . . is based primarily on our belief that librarianship is a profession in which the beginner can learn from the practitioner as well as in the classroom. Often, we believe, an individual will derive considerably more from the graduate library curriculum if he has had prior working experience in a library.

Harvard also aims to "work within its own professional machinery," drawing a larger number of young people with language or subject training into academic libraries and educational administration rather than simply staffing the library with specialists recruited from outside the library profession.

The Boston public library feels that the primary goal of its preprofessional program at present[2] is to fill professional positions with interested people who, although having substandard qualifications in the beginning, will meet the qualifications in the long run. It would be preferable to staff these positions with professionals (even at the higher salary) since professional work would immediately result, but since it is impossible to fill all available openings in that way, the best qualified substitutes must be employed. This may be one explanation for the wide fluctuation in number of preprofessionals employed from year to year. At the same time the BPL hopes to attract people to the library profession by providing a trial period of internship.

To this end the BPL has an active recruitment policy. The library personnel officer regularly gives talks at high schools to introduce the library as a possible career. Two attractive brochures have been prepared to attract college students, and interviews are held on college campuses. The success of this policy is indicated by the lower median age of their beginning interns (BPL men 24, and women 22; Harvard men 26, and women 23), and by their having a higher percentage of interns who had no other full-time work, military experience, or graduate training after college (BPL, 35 per cent; Harvard, 15 per cent).

At Harvard, in contrast, recruitment is done passively through the university personnel office (and its career brochure which mentions library positions) and by past and present interns. Without any active recruiting program, Harvard still receives about one hundred twenty-five to one hundred fifty inquiries per year. More than six hundred persons have expressed some interest in entering the program since its inception six years ago, and four hundred forty-five have filed formal applications (as of January 1, 1966), but through April 1966 only one hundred thirty-seven had actually been accepted into the program.

The criteria for selection of participants in the Harvard Intern Program are: (1) acceptance at an accredited library school. This is usually the Simmons graduate school of library science. Lo-

[2] Catherine M. MacDonald and Edmund R. Ettele both suggested that the philosophy of the preprofessional program and its future may change since Philip J. McNiff (formerly head of the Harvard library resources and acquisitions department) has recently become the new director of the BPL.

cated in Boston, this is the only accredited library school in New England. Occasionally, however, interns have preferred to work in the library for about two years and then go to another library school in a different part of the country on a full-time basis; (2) three to five favorable recommendations (personal and academic); (3) academic record of B– or above, except in unusual cases. Ability in at least two foreign languages is generally expected. Previous library experience is not important but certainly recognized. Such skills as familiarity with computer work, or the holding of an advanced degree are welcomed. A personal interview is always required. Here the intangibles of personality and intellect—the most important yet least definable characteristics—are assessed. The potential librarian must have no emotional handicaps, must work well with groups, must be, first of all, "a great human being," "a Renaissance man or woman."

For those applicants who wish some working experience before going to library school or who are not assured of admission to Simmons, an intermediate program has been established at Harvard for "intern candidates." The intern candidate is given the same position as an intern but at a lower salary. He usually changes his status to that of an intern or drops out of the program within six months.

The criteria for selection at the Boston public library more closely follow Simmons' requirements. No one may take a position at the BPL until he has been accepted at Simmons, and then he must begin taking at least one course every semester. An academic record of B– or above and knowledge of one foreign language are required (both prerequisites for admission to Simmons). Recommendations are usually obtained through the applicant's college placement office. A personal interview is required and interest in library work must be shown, but no previous library experience is necessary. The candidate "should have an outgoing personality, and enjoy meeting and working with all types of individuals. A good character, a well groomed appearance, an easy manner, and a willingness to cooperate with others are all essential. . . ."[3]

The benefits of a preprofessional position at the BPL include the salary beginning at $4650 and increasing in increments of $300 upon completion of each one-fourth of the library science courses to a maximum of $5850. Full tuition (*c.* $150 per course) must be paid out of the salary since no reimbursement is given. Four $200 scholarships are awarded annually, however, to preprofessionals who have completed at least one year's service at the BPL. An annual vacation of four weeks (twenty days) is given. No free time is regularly allotted for classes or study, but flexible scheduling can usually be arranged with the department and/or branch librarian because of the long hours during which the library is open. "Pre-pros" may take up to five years to finish the MLS program, but the BPL has no provision for prospective preprofessionals who do not wish to attend library school immediately.

The tangible benefits of the Harvard program include a salary of $4500 for the first year of employment, $4800 for the second, and $5200 for the third. Since July 1966, interns with a master's degree begin at the $4800 level or receive $5200 if they have already been working for a year. This salary is comparable to that offered by the BPL because Harvard gives half-tuition reimbursement for each course completed with a grade of B– or above. Besides the annual one month (twenty-two days) vacation, interns are given up to seventy hours each year of free time to

[3] "Advance Recruiting Information: For Colleges and Universities" (Boston: Boston Public Library, n.d.).

be used when necessary for examinations, writing papers, or taking an occasional daytime course. An intern reserve room has recently been established at Harvard, providing study space and a small collection of basic library science literature.

All interns at Harvard are required to study for the master's degree in library science. This is usually done by taking one or two courses per semester at Simmons and working a regular thirty-five hour week. Nine four-credit courses are required for the MLS from Simmons, and Harvard encourages the interns to finish degree work in less than three years.

The "Boston Public Library Personnel Manual" (1960) provides the following guide to job assignments:

> The Pre-Professional Library Service is composed of employees who are in training for professional service and who, under the guidance of professional employees, are performing duties that are considered to be professional in nature but which lack the authority, knowledge, and responsibility accorded to positions in the Professional Library Service.

Positions at the BPL are assigned in all areas of public library work such as reference and research, cataloging, rare books, and audio-visual materials, but most openings are in children's or young adults' work. A choice of jobs is usually available, depending upon the applicant's qualifications and aptitudes.

Harvard offers a similar choice of positions, depending upon existing openings. Interns do administrative, reference, and cataloging work, are employed in the main library (Widener), most of the large graduate schools, and some smaller departmental libraries. The largest single group of interns are catalogers. Since Harvard has its own cataloging and classification schemes, all of its catalogers must be trained, and the interns' lack of experience is no disadvantage. Eventually the administration hopes to be able to raise intern salaries almost to the beginning professional level, since their assignments are often the same as those of beginning professionals.

One perennial problem is the intern dropout rate. "Dropouts" are defined as those who do not continue working at their library long enough to receive the MLS. At Harvard, the intern dropout rate is 45 per cent (61 out of 137) of those admitted up to April 1966, a rate much higher than the library administrators had expected. Harvard's higher rate may reflect the inclusion of intern candidates in the total and the fact that some of the interns are married to Harvard graduate students and often have to move from the area when their husband's studies are completed. Marriage, pregnancy, and full-time attendance at Simmons are three other common reasons for leaving an intern program. In studying the dropouts, Harvard found that the person who has had some experience at work, military service, or graduate school before joining the intern program has a better chance statistically of completing the program.

Although the BPL has not made a count, its dropout rate is estimated at only 20 per cent. Since the BPL has a higher percentage of interns with no post-college employment, an actual count might show that the estimated dropout rate is too low. Balancing this, however, is the fact that fewer BPL interns are married to students or other temporary residents.

There is no obligation on the part of either library to offer an intern a professional position at the end of the intern program, nor is the intern obligated to accept a position in the library after completing his internship. In each case, the offer of a professional assignment depends upon the openings available and the caliber of the new librarian. When the intern is asked to stay, however, his previous experience usually re-

sults in a higher beginning professional position and salary. Of the thirty-five interns who have received the master's degree while working at Harvard, twenty-four were employed there in professional positions as of January 1, 1966. At the BPL, as of the same date, sixty-five of the 172 professionals were former preprofessionals. These figures alone demonstrate the success of the intern programs for the participating libraries.

The first part of this survey has shown what the administrators at Harvard and the Boston public library intend their programs to accomplish and the type of person they wish to attract. With the permission of the administrators, the seventy interns at the two participating libraries were given opportunity to express their views through a questionnaire. Forty-nine (70 per cent) responded with signed questionnaires. To insure candor the interns were assured that the completed questionnaires would not be shown to the library administrators.

Obviously, these responses are subjective, nonprofessional judgments; their importance lies in the fact that the interns who responded show concern for and interest in their programs, and their opinions may be used to avoid or minimize certain objections which the interns raise. Their opinions are of value in indicating possible causes for dropouts and in furthering word-of-mouth recruitment to the programs.

The median age of the interns at the beginning of their participation in either of these programs is 22½ for women and 25 for men. Many are unmarried (65 per cent). Many have had either full-time employment, military service, or graduate training after college (71 per cent) and/or have had some previous library experience (65 per cent). This means that about one-third enter the programs without any library experience. Only 24 per cent of the interns had attended graduate school and even fewer had attained a graduate degree (13 per cent), indicating that the programs have not yet been very successful in attracting trained subject specialists. Harvard, which already has at least five interns with an advanced degree (20 per cent of respondents), is trying to attract more by offering them a higher beginning salary.

The response to a question asking what the interns would have done had they not been accepted into an intern program points up the differences in recruitment and acceptance policies. The BPL has been successful in recruiting applicants in colleges before they had decided on another career. Only 30 per cent of the BPL interns would have gone into library work without an internship and (perhaps) without the impetus of active recruitment. On the other hand, Harvard interns seem to have had a greater interest in library work for its own sake since 60 per cent would have accepted a library clerical position or attended library school full-time if they had not received an internship. This high percentage may be related to the fact that Harvard interns are, on the average, somewhat older than the BPL pre-pros and have often already tried a nonlibrary position and decided against it.

Although only the BPL personnel office has an *active* recruitment policy, over half of all the interns first learned about the intern program through a library or university personnel office (62 per cent at BPL, 50 per cent at Harvard). Next in importance are friends (often other interns attending Simmons with the applicant), who were the first source of information about the program for one-quarter of all the interns. Another 12 per cent of the interns were informed by another librarian, either at their previous place of employment or where they had attended college or graduate school. Thus, as former interns from Harvard spread into other academic libraries, this will be an even more important source of advertising. The sur-

vey shows that academic, rather than public, librarians are more likely to meet *prospective* librarians at the crucial time during or right after college when most career decisions are made.

The interns were asked to estimate how much of their time was spent in clerical or in professional duties. These categories were not defined for the interns; the important thing about the question was whether or not the interns felt they had responsible, near-professional positions. The BPL, which aims to assign preprofessionals to completely professional positions, seems to have succeeded fairly well: only 20 per cent of the pre-pros believe that *more than half* of their work is clerical in nature. Harvard's interns are less inclined to agree with the library administration that their positions are "professional or near-professional in nature," since 44 per cent (12) feel that their jobs are made up of more than half clerical work.

Less than a quarter of the interns at each library specifically use their undergraduate major or field of specialization in their work (Harvard 22 per cent; BPL 22 per cent). This indicates either that the libraries are unable to arrange the best job assignments for the interns or that many people choose librarianship with no relationship to or interest in their former speciality. Of the eleven BPL preprofessionals who use their specialization on the job, five said that it is not essential. Their majors were in liberal arts fields such as English or political science, and their present jobs are generally in public service positions.

Harvard requires interns to have foreign language ability beyond what is necessary for admission to Simmons, but only 40 per cent of the Harvard interns (and 10 per cent of the BPL preprofessionals) find this ability essential in their work. However, many interns at both libraries replied that, although language ability was not essential, it was definitely useful—demonstrating the importance of foreign language knowledge in all types of library work.

Slightly more than half (57 per cent) of the interns replied that their library science course work was directly useful in their jobs. This leaves a rather large group which did not find course work directly useful. These are often the people doing much clerical work with less chance therefore to apply their knowledge, or they are respondents who had taken only one or two courses and had not *yet* seen any correlation with their jobs. The latter often commented on this as a limitation in answering this question. On the other hand, most of the interns (82 per cent) felt that the experience gained in their jobs made classwork easier. Two typical comments on the intern program read:

> It provides a wealth of experience and outlook unavailable in either a job or full-time schooling. The knowledge learned in one complements the knowledge (good and bad) learned in the other. It provides a richer educational experience.
>
> Attending Simmons while holding a library position helps me to make my work more creative, innovative and efficient by applying what I have learned.

The three reasons offered in the questionnaire for entering an intern program were (1) financial, (2) desire to gain practical experience, and (3) preference for part-time study. The replies confirmed that these were the major advantages of the program for a student. Many people checked more than one, but only three interns added "other" reasons. These three interns had accepted internships only because specific jobs which they wanted just happened to be internships or were so designated by the administration to make the salary acceptable.

The questionnaire included a long list of possible disadvantages of the intern program. The two chief complaints checked by respondents were that the program extends the time needed to earn

the degree and that it does not allow enough free time for one's own life and family. These are things which the individual library or library school can do little about; they are endemic to any work-study program. The third major complaint was lack of sufficient study time for homework. Since Harvard does allow seventy hours free time for schoolwork, most of the complaints came from the BPL. Most of the advanced courses at Simmons have had only one section each semester and this was often scheduled during the day. Having this free time gives the intern leeway to take whatever course is most necessary for his progress. So much time is expended on courses, research, and visits to other libraries that the seventy-hour allowance is minimal (sometimes even exceeded by the Harvard interns, who then must make up work time). The request for free study time during working hours was the most frequent added comment on the questionnaire by the interns at the BPL (seven out of twenty-one respondents).

A predictable number of complaints about low salary were voiced by the interns at Harvard (28 per cent), but over half of the BPL interns (52 per cent) felt they were underpaid, even though their basic salary is larger than that of the Harvard interns. The complaints stem from the BPL's policy of assigning preprofessionals to professional jobs, for which the interns desire equivalent compensation:

> I feel that I am doing high-level professional work (at least on the basis of experience in the position) and am not being recompensed sufficiently.
>
> Permit preprofessionals to fill professional positions and be classified and recompensed as such on the basis of experience, ability, and classwork completed.

The number of interns who feel qualified to earn a higher salary (at the moment of answering the questionnaire) in a nonlibrary position is quite high among the men: all of the male preprofessionals at the BPL and five out of six men at Harvard (a striking illustration of why so few good men enter librarianship). Only two of these Harvard interns complained about low salaries while all of the BPL men did. This may be connected to the fact that half of the Harvard men (three who did not complain about low salary) had decided to go into the library field even without an internship, whereas three-quarters of the BPL men would have taken a position outside the library field. The women seem to be more satisfied—only about one-quarter at each library complained about low salaries. However, 46 per cent of the women at the BPL and 38 per cent at Harvard felt that they were qualified to earn more money in some other field.

The other disadvantages checked by interns were too much clerical work (20 per cent), too much pressure (19 per cent), no choice of library position (16 per cent), necessity for taking some undesired courses to fit one's work schedule (16 per cent), and irregular hours (11 per cent). About an equal percentage of Harvard and BPL pre-pros noted these disadvantages.

About 60 per cent each of the Harvard and BPL interns indicated that they attend library meetings of professional organizations and/or within their own library system. At the BPL many of the preprofessionals (especially those in children's and young adults' work) are branch departmental librarians who meet regularly as a group with a branch libraries coordinator. But the preprofessionals working in the central library of the Boston public library get *no* opportunity to attend regularly scheduled library meetings with others in their system. If the interns are really in training for professional positions, a much higher percentage at both libraries should attend meetings and conferences with the professional librarians in their library system. Inviting the intern to

participate in professional meetings within the library is a practical and simple way to raise his interest in his work and his knowledge of general library policy and trends.

Almost all the library interns have contacts with other interns in other departments, in their own department, or as personal friends (usually met at Simmons), but only the BPL prepros meet other interns at library meetings. A large number of Harvard interns have some business contact with interns in other departments because a great deal of interdepartmental telephoning is done, and many of the interns have approximately the same level of responsibility in their various departments. At least five people at Harvard specifically requested more *formal* contact with one another—some planned program to learn about one another's work and studies. They emphasized the need for an orientation at the beginning of the internship to acquaint newcomers with the library system as a whole as well as with other interns. Some of the specific requests were:

> Opportunity for all interns to attend meetings of professionals within Widener with the departmental libraries—to be at least aware of the big trends and problems currently under discussion.
>
> Opportunity to get to know the whole library system and other interns by tours (more than one hour!), visits, meetings.

Contrary to Harvard's practice, the BPL does not set the interns apart as a special, rather privileged group. At the BPL the preprofessionals work with other professionals *as* professionals. Indicating their acknowledgment of this higher status, no preprofessionals suggested that more contact with one another be planned.

Half of the interns polled would prefer a "rotating internship," that is, assignment to more than one department during the period of internship. Of those who would prefer rotation, however, 76 per cent either intend to work in another area of specialization (as professionals) or have not yet decided on their future specialization. Of those who do *not* wish to rotate, 61 per cent do intend to specialize in that area in which they are now employed. There are also logical reasons for the minority of respondents who do not fit this pattern. At least three of the six interns who want rotation and are *now* working in their chosen area of specialization hope to go into or continue in library administration, where familiarity with many areas of library work will be of great value. One intern who did not want a rotating internship commented that the question was relative: he enjoyed his present assignment and was therefore not interested in changing. But if he had found his specific position unsatisfactory, he might have preferred rotation. Many of those who intended to change areas but did *not* want to rotate indicated that rotation would reduce the amount of responsibility which they had. Nevertheless, there is a clear desire on the part of many interns (51 per cent) to have the *choice* of rotating.

At present, neither library offers its interns the regular opportunity to gain experience in more than one department during his internship. A few interns have held two different positions during their internships, usually because their original assignments were unsatisfactory and they demanded a change. Harvard does offer some variety to approximately four interns every year who are given the opportunity to work with the reference librarian in the main library for half a day on alternate Saturdays (in addition to their regular assignments).

The results of this survey indicate that the majority of interns are basically pleased with the programs. Where criticisms are made, they are constructive, if sometimes idealistic. The interns seem to feel the lack of an over-all administrative plan which would allow less variation in the potential and growth possi-

bilities of an intern position, which would utilize instead of stifle the intern's initiative, enthusiasm, and creativity. A common request by the interns was that this be a training program rather than a way to get cheap professionals—or overpaid clerks. Departmental supervisors vary in their interpretations of their responsibilities within the intern plans. To avoid this, interns have suggested that supervisors be made aware that the interns are in training to learn both general library principles and their specific application to their library system. Attendance at library meetings and tours and the opportunity to understand the reasons behind administrative decisions within their area of work all contribute to the "responsibility with guidance" which interns have requested. Further suggestions included a periodic, written evaluation of the intern's work by his supervisor for the benefit of both the intern and the central administration, plus—if not a chance for rotation—at least more opportunity for promotion and transfer. The excellent ideas of these intern programs have captured the imagination of some outstanding prospective professionals. Now the administrators must keep these interns constructively and creatively occupied within the field of librarianship.

■■

FLOYD CAMMACK and DONALD MANN

Institutional Implications of an Automated Circulation Study

In February 1965 Oakland University library implemented a circulation control system utilizing IBM 357 data collection units with a 1620 computer equipped with disk storage. An initial test run of analytic by-products of the system shows implications for more efficient library administration and further defines the library's function in the educational process.

THIS PAPER is a report, based on initial, limited data, of a few of the questions and answers made economically possible through the combination of machine-readable circulation and student records at Oakland University. The specific answers to the questions asked in this study are of secondary importance, except as their relative status may suggest general trends. The questions themselves, together with similar, more refined types of inquiries, are ones which become readily and regularly answerable with any circulation system that combines call number information with borrower identification in an easily tabulatable form.

In the case of the Oakland system, this transaction record is a punched card produced automatically from a machine-readable book card, a machine-readable borrower's card, and a time clock. Its primary function is input to the main circulation records system. By accumulating these cards after their information has been processed through the computer, there develops a store of book-and-borrower data which in turn can be run against student records containing current information on grades, curriculum, and class.

The analyses performed thus far are basically counting mechanisms. The approach to each analysis was to determine, within the charge data, the possible span of the quality- or identifier-field to be analyzed, such as the day of charge, class of book charged, etc. A counter for each unit of the span was set up in computer memory, the file of charge cards was passed through the computer, which incremented the appropriate counter for each charge, and the contents of the counters were then printed.

No forecasting or statistical analysis was done by computer at this time. The study merely lends insight into the relative volumes of the various characteristics of the data. By establishing the counters in memory prior to giving the data to the computer on each run, the necessity of large-scale card sorting was all but eliminated. All programs were written in the FORTRAN programing language and were run on the university IBM 1620 computer which has card, disk, and printer capacity.

The charge cards were first separated from the discharge cards. Three analyses

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were then made on the charges: Use by Day (run time: 50 min.), Use by LC Class (85 min.), and Use by Time of Day (55 min.). The charges for students were then split out and sorted into student number sequence. These cards were then run against the student cumulative performance file which is maintained by the university, and student summary cards were punched. These cards contain student number, number of charges, cumulative Grade Point Average, curriculum, and class. The remaining four analyses were then run: Use by GPA (20 min.), GPA by Use (20 min.), Use by Class (20 min.), and Use by Curriculum (20 min.). Copies of detailed data not presented here can be made available on request.

The initial tabulations, after four months of operation, provided answers to the following inquiries.

Question: Could personnel scheduling at public service desks be more efficiently or economically handled?

Answer: Yes. A tabulation of dates of charges showed a striking consistency by which charging activity tended to follow a cyclical pattern, consistently giving certain days of the week by far the heaviest workloads. Desk staffing patterns and shelving labor could be brought into better relationship with an unexpectedly predictable activity cycle. In answer to the same question, the number of changes per hour showed four regular peaks with definite implications for desk staffing and improved closing procedures. Unexpectedly, and in contradiction to the staff's impressions, charging activity did not tend to cluster around class intervals, but spread quite evenly throughout each hour of the service day.

Question: Which portions of the library's collections are used most heavily, and which are used least?

Answer: A breakdown by LC classification letters showed English literature, history, philosophy, education, and economics topping the list in that order. The lowest significant use areas involved mathematics and the physical sciences, the totality of which did not equal use in English literature alone.

Such an answer might well raise a number of subsidiary questions concerning adequacy of the collection for student use, library orientation for science students, comparative figures for similar institutions, the numerical relation of science majors to other majors, and perhaps the science faculty's awareness of the library's resources together with the whole question of departmental goals and book budget allocations.

Question: Students majoring in which subjects tend to be the heaviest library users, and does this correlate as expected with the answer to the immediately preceding question?

Answer: Secondary education majors in modern foreign languages and English head the list for average number of charges per person, followed closely by liberal arts majors in the same fields. Similarly high averages support history and philosophy use patterns mentioned above. Majors in physical and biological sciences average below the mean, but again with their secondary education counterparts somewhat more active than students in the College of Arts and Sciences.

The suggested implications of these tabulations would appear to be that students tend to read largely within their own fields of study (although a further breakdown by individual students' charge records would be required to confirm the conclusion) and that, at Oakland at any rate, students planning teaching careers use the library more than arts and sciences students with the same subject specialization.

Question: Do upperclassmen tend to use the library more than lowerclassmen?

Answer: Decidedly yes. Of those who used the library during the list period, juniors and seniors averaged almost twice the number of charges for freshmen and sophomores. Somewhat more enlightening are the implications of the class breakdown shown in Figure 1 below. The freshman year would appear to be a "non-library" year, in at least a portion of which only 10 per cent of the class found it necessary to check out a library book. By the sophomore year, the number has increased sharply and by the junior year, apparently almost all students are library borrowers. With the implementation in 1966 of a new lower division curriculum at Oakland, it would seem worthwhile to establish a detailed analysis of freshman library activity (or inactivity) in cooperation with the administrative officers responsible for the curriculum. The inclusion of librarians within the freshman advising program, and the presentation of library orientation programs, apparently require examination and increased emphasis.

With an over-all library non-use figure of 42 per cent during the test period, it appears likely that freshmen are the odd-men-out. Unless their "in-house" use of library facilities is considerably higher than other indications would imply, major attention should be focused on the library's relations with lower classmen.

Question: What is the relationship between library use and academic achievement?

Answer: Extremely close. As illustrated in Figure 2, even a limited body of data shows a direct, positive correlation between the borrowing of library materials and cumulative grade point average. Using the test period as a sample, the cumulative GPA of students who borrowed at least one book during the time was 2.73, while that for students who borrowed no books during the period was 2.54; implying again that regular

Fig. 1

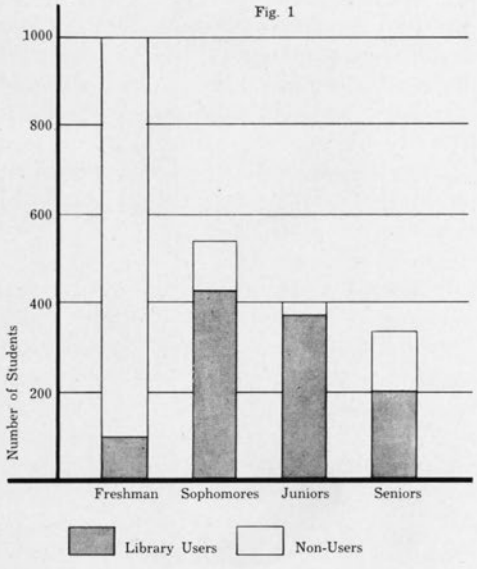
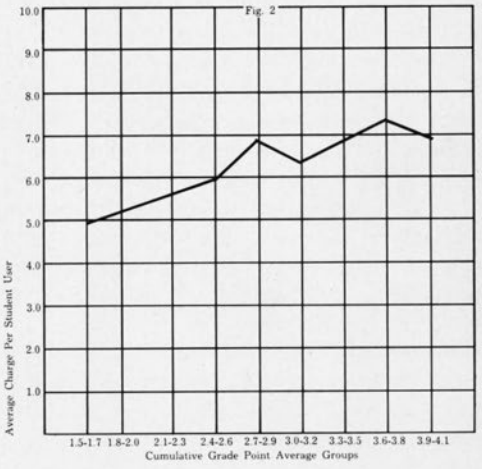


Fig. 2



library borrowers are likely to make better grades than do nonborrowers. It may also be that entrance examination scores are higher for the former group. A semester-by-semester tabulation of these relationships could begin to establish profiles of student achievement by class-year and subject. Further sorting of data could provide individual "reading profiles" for individual students and groups of students, answering in part the old question "What does a 'good' student do that a 'bad' student doesn't?"—and vice versa.

Sidestepping for the moment any discussion of causal relationships between academic achievement and library use, the library's position (if not function) within the undergraduate educational process would appear, simply on the basis of circulation figures, to be demonstrably significant. When this correlation is viewed in connection with freshman and sophomore use patterns, perhaps academic librarians (at least at Oakland) should set out to "recruit" users in their first two years of college work. It might well be that college librarians should take another look at the public library's operation and staffing of young adult collections.

As the store of transaction data continues to increase as a by-product of the circulation system, it will soon reach the point at which reliable answers can be found to a number of additional questions. The ability to identify nonborrowers quickly and accurately should provide useful information for academic advisers. The borrowing records for commuters, dormitory students, students in specific courses, part-time students, and faculty members are within easy access, allowing runs of the total accumulation of data or of any desired sample. While most manual circulation systems generate the same type of data, machine-readable data allow easy and rapid tabulation at a fraction (estimated at 1/5) of the cost of the same information developed manually. Initial faculty and administrative reaction to the availability of this type of information has very quickly answered the question, "Who cares?" Requests for special runs have ranged from the professor who asked for periodic "traffic reports" on his assigned reading lists to a department chairman who expressed a near-unethical degree of interest in the reading habits of his faculty members in connection with promotion decisions.

With the system designed to go online as soon as practicable, the provision of remote terminals could put the answers to these and many other questions literally at the fingertips of librarians, administrators, and faculty members, with data always up-to-date and instantly available. ■■

IVAN F. JACKSON

An Approach to Library Automation Problems

The introduction of automation systems into libraries requires considerable planning. The relative independence of the various internal operations should be recognized and evaluated. Independent operations may be automated in an order which gives the maximum gain for the least cost. The interdependent operations should be automated in an order which follows through the logical sequence of operations. Information used in an automated system should be critically evaluated to see whether it is relevant to the process, and every effort should be made to see that the automated and manual parts are in balance.

With the increased pressure on libraries to expand their collections it is inevitable that modifications of traditional library procedures soon are necessary. One of these is automation. If used intelligently automation can be of substantial benefit to libraries, but unfortunately in many cases the benefits promised have not materialized. Some feel that insufficient knowledge exists in libraries as to how to merge automated processes with or into non-automated processes. This paper is an attempt to bridge this gap.

The Sequence of Automation

The first problem facing an investigating team, apart from the availability of funds, is deciding in what sequence a library automation program should take place.

In a theoretical situation, a library could be considered a series of independent operations or functions. To some extent this is true; for instance, the circulation function is largely independent of the acquisitions function, although obviously there is some relationship between the two in the sense that in a large library the activities in both functions probably would likely be considerable. This interpretation is misleading, however, as both functions are mutually correlated with library size and there may in fact be very little true correlation between the two functions. The important thing to consider is that an increase in activity in the acquisitions function would not necessarily result in an increase in the activity within the circulation function.

If the assumption of independence is made, the problem of selecting the automation sequence becomes simple. In each case an estimated or projected cost may be assigned to the automation of an individual function. Probably to all intents and purposes a safe assumption would be that the cost involved would be linearly proportional to the time taken to automate that particular function.

In addition to the cost aspect there is the profit aspect. This is much more difficult to assign as in many cases the profits must be expressed in an intangible form. Every effort should be made,

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however, to derive some form of profit figure which, even if it is in an intangible form, gives an indication of the relative worth of automating a particular function.

When a time (or cost) figure has been obtained and an estimate has been made of the profits to be accrued from automating each function, *the function which should be automated first is the one giving the maximum expected profit for the least amount of time spent in automating it.* Subsequently the various functions should be ordered in a sequence which corresponds to the ratios of the various functions, arranged in order of decreasing numeric size.

On this basis, then, the decision on whether to automate the circulation or the acquisitions departments would depend on the relative advantages to be obtained from an automation project, weighted by the time it would take to get the automation project finished.

While it may be argued that an ideal library system consists of a series of independent functions, in actual practice this is seldom the case. For instance, in most libraries, the cataloging function is closely related to the acquisition function. To a lesser degree an automated circulation department could be expected to be tied in with an automated catalog department in the sense that the output from cataloging is the input to the circulation department. The problem is to apply automation where it will cause as little disruption as possible to the rest of the system. On the other hand, once a function is automated it should be as near as possible to its final form. Thus, as a general rule, an automated function should not have to be altered at a later date as other automated functions are introduced. This restriction is not, however, all-inclusive, and in each case the cost of adding the information at a later date must be weighed against the cost of keeping the information in the system, always bearing in mind the fact that excessive information at any stage tends to reduce the speed with which the information can be handled. Thus, if the acquisitions and cataloging functions are both to be automated it may be cheaper to add the catalog information at a relatively late stage in the system (it may have to be added in a revised form anyway).

This paper would propose that the solution to the sequential problem is to start automation at the beginning of a series of operations and to work gradually through the system in order. Thus the general automation sequence would be acquisitions and then cataloging. In this manner, while recognizing the sequential nature of the operations, the over-all system is divided into a series of subsystems which are successively optimized. Where subsystem B follows subsystem A, if B is optimized and then A is optimized, the over-all results will not necessarily be the same as if A is first optimized and then B. In all probability, however, the latter sequence, with A optimized before B, will be more effective than the former.

From a theoretical point of view, also, the combined effects of the optimization of A and of the optimization of B will not necessarily be equal to the sum of the separate effects. This is because of the interaction effect, which may be negative, decreasing the over-all effects. On the other hand, the interaction may be positive with the result that the over-all performance is increased.

In a practical situation in a library automation project, however, the individual separate positive effects will tend to be small, because of the effects of the many disruptions inevitably introduced into the rest of the system, whereas the interaction effects are likely to be large and positive as a result of the elimination of these disturbances. For instance, if the acquisitions function is separately automated, there is likely to be a considerable disruption of the cataloging

function. Similarly, if cataloging is separately automated, some interference with the routine in acquisitions would be expected. If both functions were automated, however, it would be expected that the disruptions would disappear and the combined positive effects would be substantial.

The Automation Process

With a decision having been made to start an automation project with the acquisitions function or department, data may be captured at its source, that is, when a book request enters the department. On the other hand, just because information is available does not necessarily mean that it should enter the system. If it will not be used it should not enter the automated part of the system. For instance, information may be written on a book request form to indicate who should be notified when the book is cataloged and shelved. It may be the practice within the library to return a copy of the original order to the request originator. In this case there is no need to transfer the information from the order form to the automated system, to store and manipulate it within the system as the book is processed, and then when the information is required, to consult the original request form only and ignore the rest.

Each bit of information should be evaluated critically to see whether or not it would be used if it entered the system. For instance, if an acquisitions librarian had an order form in his hand and he required some information, it would be pointless for him to consult a computer-produced listing when all he had to do is to look at the form. Thus, for this particular application, the listing would possibly be just as useful if it were printed with less information. If the listing is used to obtain some information, however, it is probable that the listing should have contained the additional information in the first place.

Computer-produced records should contain minimum information necessary. Failure to observe this point is the biggest weakness in many automated library systems. Systems designers sometimes seem to pride themselves on the amount of information contained in their records. What such practice overlooks is that it is a very costly process to use a computer as a printer. With the high acquisitions rate a list can become very long and if unnecessary multiple lines are produced for each entry the cost can be prohibitive. In fact, the problem of getting adequate information from the computer onto hard copy listings may well be one of the biggest problems to be faced in library automation today.

Because of the importance of this problem it is well to dwell upon it at some length. Probably, under normal searching conditions, the alphabetic file is the most commonly used of all order files. With manual access, information is added slip by slip and removed in the same manner. The inactive slips are not handled at all. This is not true for a computer-produced listing. Each time a listing is produced the whole listing, from A to Z, must be produced, although perhaps less than 10 per cent of the file has changed since the last listing. The remaining 90 per cent has remained unchanged, with some entries remaining unchanged through as many as ten listings. The list must be produced for a small percentage of the entire file with the result that the change cost per entry becomes excessively high.

An alternate solution is to produce a supplement. From a work study point of view this virtually doubles the number of files that must be searched. In addition, if an entry has changed from one status condition, to another, the old entry may have been found in the main file while the more recent and correct entry is ignored. Also, in spite of claims frequently made to the contrary, it is probable that the very existence of a

supplement causes a substantial increase in the time taken to find the required information. With both a listing and a supplement available the tendency is to look in both places, even though the probability of finding an entry in the supplement is comparatively small.

A further strategy is to have the longer listing produced less frequently; it can always be shown that in any situation there is an optimum time interval for producing a listing. This interval is based upon the cost of producing the listing and the cost of purchasing duplicates, or of any mistakes caused by the delay in appearance of successive listings. This strategy appears to be unsatisfactory from a librarian's viewpoint because, notwithstanding theory to the contrary, when a book is not found interested parties are left in the dark as to the current status of the book order, or the whole system grinds to a halt while the offending entry is traced down.

Alternatively, the entry may be shortened until it consists of only one line of computer output. This has the effect of reducing the cost of the listing so that the interval between successive listings may be reduced. While the problem of producing the entire listing from A to Z remains, the situation is somewhat less critical as the list is considerably shorter.

The librarian still appears to be on the losing end of the deal, however, as he must now contend with abbreviated entries. With a limit of about 130 characters per line this is inevitable. If the author entry is lengthened, the title is abbreviated. If the title is lengthened, the author must be shortened.

The word "appears" is used above because it may well be that the reason for the apparent inadequacies of the list is not the form of the lists themselves but how they are used. Initially, for instance, it may be assumed that whatever the form of the list or the printout, the information supplied to the vendor on the book purchase order must be complete in the sense that is sufficient to enable the vendor to identify the book. The primary purpose of information transfer from the library to the vendor is thus accomplished. Since it may also be assumed that the original form on which the book request was written has been retained, this information is also available to the library. Thus, irrespective of how the listings are used, information is not lost to the system. Also, in an automated system, the computer fulfills the function of correlating the incoming information with existing information, a function for which it is ideally suited. Although some correlation may, of necessity, be done manually, it should be kept to a minimum. The listings should be of the form that enable the majority of the noncomputerized activities to be completed efficiently. If this can be accomplished with abbreviated entries or partial information such a listing is adequate. In the relatively rare cases in which additional information is required it may be extracted from the original request cards.

The Automation Balance

Although much of the previous section has been devoted to acquisitions procedures, the same principles apply to other library functions. In every case a balance must be obtained between the automated and the manual parts of the system. This does not necessarily mean weighing the quantity of work performed by each part in balance with maximum over-all work efficiency.

In the accounting function, for instance, it does not necessarily follow that all the work should be handled by the computer. The accounting may be so complex that in order for the computer to obtain the information necessary for the calculations, complicated manual procedures must be initiated.

This in essence defeats the purpose of automation. In such a case the solution probably is to simplify the over-all accounting procedures. In many cases, however, it may be much cheaper to retain some aspects of the manual system, possibly redesigned to merge efficiently with the various automated data processing operations.

A circulation control system is a case in point. From a theoretical point of view an automated circulation system is very simple. Information from a borrower and from a book is fed into a memory. If the book is returned before its expiration date the item is erased from the memory. If it is not returned a message is given that the book is overdue. Side operations may or may not include inventory listings. In its most elemental form an automated system consists of a keypunch and a sorter, but a duplicator, interpreter, and accounting machine may also be included. In this case the memory would consist of a card file. In the more complex case the memory consists of magnetic discs under the control of a computer with some form of input and output terminals.

It is undoubtedly true that the manual circulation systems used in most libraries are very efficient. The problem arises out of the sheer bulk of transactions carried out within the circulation department. Because of staff difficulties, for example, it may no longer be possible to maintain and follow up overdue notifications adequately. The solution in such a situation may not necessarily be to introduce a simple automated system (keypunches, sorters, etc.), as the manual system may be transferred to the automated system with the added expense of the machine rental being very high in relationship to the advantages gained.

If a computer system is introduced, the machine (*i.e.*, console) rental cost may be small but the rental of the memory banks and the computer costs may be considerable. The advantages gained from the automation would have to be substantial before such a system could be implemented. Possibly the optimum arrangement would be a combination of the efficient aspects of the manual system, one or two simple data processing machines (*i.e.*, keypunches), and the use of a computer on a batch basis for some of the more time-consuming operations.

Conclusions

In an evaluation of a library for automation purposes the various functions within the library must be delineated and classified with respect to each other. Some activities will emerge as being independent of the others. These may be automated on the basis of obtaining the greatest profit from the least amount of effort. The independent activities may then be arranged in a descending sequence of expected profit per unit of automation time. The operations are then automated in the order of their respective expected profit figures.

During the process a critical evaluation must be made of the information in the system to see if it is relevant to the particular activity being considered. No superfluous information should be carried, especially with a computer, where printing costs may become prohibitive. The nature of library information lists is such that extensive study must be made of them at an early stage in the automation process. In addition, considerable care must be taken that the automated and manual parts of the system are in balance with excessive emphasis being placed on neither. ■■

Book Reviews

A History of Libraries in the Western World, by Elmer D. Johnson. New York and London: The Scarecrow Press, Inc., 1965. 410p. $8.50. (65-13554).

When a heathen came to Rabbi Hillel and asked him to explain the whole Torah on one leg, he answered: "Do not unto others as you should not want them to do unto you—the rest is commentary. Go and study." Anyone who is asked to write a compendium of library history is faced with the same problem. It is impossible.

Mr. Johnson has bravely struggled through hundreds of monographs on one or another phase and period in the history of libraries. At the end of each chapter he has listed "further reading." That his book seems abrupt and somewhat statistical is hardly his fault. How does one describe the British Museum in two pages? One could hardly get the flavor of the King's Library in that space. One could not possibly understand the scope and depth of the special collections of authors, subjects, and periods which that institution has published from several score lines of typing. (The volume is a photoreproduction of typed pages, an inexpensive form of printing apparently favored by books on libraries and librarianship.)

Bravely, Mr. Johnson starts out with papyrus and clay tablets, and works his way methodically through to sixty-seven hundred volumes on French culture collected by François Bouvier at Michigan State University. It is a long and tortuous road along which he progresses, and at every signpost he has had to make a difficult decision. How much can he say before he has to rush on? As many lines had to be devoted to that pioneer public library founded in 1656 by Captain Robert Keayne in Boston, which had no lasting influence and was destroyed by fire in 1747, as to the considerably larger, richer and far more influential Newberry Library in Chicago, which still flourishes.

It is difficult to suggest how the work might have been better. As a rare-book man I might have savored in greater detail and with more flowery description some of the monumental collections of the past. A public library specialist might have dwelt with more loving care on the development of modern branch systems. One interested primarily in the emergence and importance of the hundreds of specialized technical collections would have underlined more heavily their impact on contemporary life.

No scholar will be happy with Mr. Johnson's book. Most of its inadequacies are the result of the immensity of the scope. Most of its inaccuracies are the result of the inadequacy of the secondary sources upon which the author was forced to rely. One is somewhat overwhelmed by statistics. No matter how one reads numbers they fail to appraise quality or usefulness. That St. Louis County had four hundred and thirty-five thousand volumes in 1962 does not tell us much more than that Gabrielle de la Tour, Countess of Montpensier, owned over two hundred volumes in 1474. Yet, how does one describe the Bibliotheque Nationale?

As a textbook for library school courses in library history, Mr. Johnson's work will be most useful. Names, dates, some facts, a bibliography obviously incomplete but at least challenging, and a skeletal outline for fleshing are there. This is not the gospel, but it is an introduction to verses in the gospel. But woe to him who relies upon the index. It can only be described as primitive. To the reader one can only repeat the words of Rabbi Hillel: "Go and study."—*Edwin Wolf 2d, The Library Company of Philadelphia.*

The Modern Manuscript Library. By Ruth B. Bordin and Robert M. Warner. New York: The Scarecrow Press, 1966. 151p. $4. (66-13734).

This volume is intended to guide libraries and librarians in the management of manuscript collections. It serves this purpose admirably, reflecting the best of current practices. Each facet of a well-rounded manuscripts program is instructively discussed: collecting, processing, preparation of finding aids, administration, public relations. The model for discussion (and a fine one)

is the University of Michigan's Michigan Historical Collections with which both authors have been associated. Even the "best," however, leaves something to be desired. Unlike Schellenberg's *Management of Archives*, the book is not innovative, although there is need for innovation in the fields it covers.

With respect to collecting policy, it would have been well to state a broad guideline such as the following; "Once a subject field is chosen, manuscripts should be acquired on any aspect of the subject for which there is inadequate primary source material." Acquisition of photocopies to buttress manuscript holdings misses attention, as does the administration of manuscripts on microfilm. In many libraries administration of photo copies has been neglected. There is, however, a good discussion of the legal problems of photocopying and the acute problem posed by "loss of control" of photocopied material. Acquisition of records of current organizations should have received attention; such records are a growing component in modern manuscript holdings.

Need for innovation is greatest in the area of arrangement and description, and it is here that the authors should have presented the over-all problem as one for which no generally accepted solutions have been found. For example, in this reviewer's judgment, too much time in manuscript libraries is spent in the kind of minute subject analysis of manuscripts advocated by the authors; T. R. Schellenberg's innovative "broad subject" approach is a better guide to practice. However, neither he, the authors, nor manuscript librarians as a group recognize and react to the fact that most users approach manuscripts by *names*. Psychologically the user has already linked names with his specific subject(s) thereby rendering largely superfluous the library's painstaking, specific subject analyses which are, at best, inescapably erratic.

Reflecting current practice, the authors discuss different kinds of finding aids: guides, inventories, catalogs, and indexes, each being suited to particular kinds of manuscript groups. Yet, in this reviewer's opinion, if there is to be progress, recognition must soon be given to the need for a *single interphased system* using cumulative indexes that guide the user from single leads (name, subject, or date) to all units having the desired manuscripts. In part, the *National Union Catalog of Manuscript Collections* does this unwittingly, however inadequately. The authors properly stress the priority of a published comprehensive guide to the entire holdings in preference to guides to individual units, although along the way the latter are good for publicity.

The basic concepts of rule of provenance, order of provenance, and original order are not clearly distinguished. There are helpful appendixes with models (pp. 123-47).—*Richard C. Berner, University of Washington.*

The Power and the Dignity: Librarianship and Katharine Sharp. By Laurel Ann Grotzinger. New York: The Scarecrow Press, 1966. 331p. $8. (66-13735).

Katharine Lucinda Sharp was one of librarianship's early prophets. In 1893, she founded a library school that became the graduate school of library science of the University of Illinois. A careful study of her career has long been needed, and Grotzinger has done it well.

Born in Elgin, Illinois, in 1865, Miss Sharp was graduated from Northwestern University in 1885. After a period as a teacher and then as assistant librarian of an endowed public library in Oak Park, Illinois, she went to Albany in 1890 to attend Melvil Dewey's library school. After graduation, she undertook several short-term responsibilities and then, in September of 1893, was employed to found a library and a library school at the Armour Institute in Chicago. During the summers of 1895 and 1896 she also directed short courses at Madison, Wisconsin, under the sponsorship of the state library association.

The library school at the Armour Institute was both popular and successful. As originally planned, it was to be a highly practical program designed to train technically competent library assistants. Miss Sharp sought to raise the academic requirements in order to produce librarians qualified at a higher level than that of mere technicians. She was successful in introducing a second year into the diploma program, but the library science curriculum, as she conceived it, was not entirely compatible

with the technical orientation of the other programs of study at the Institute. Moreover, the institution found itself unable to afford fully adequate financial support to the library or to the library school. When, therefore, two universities sought to attract Miss Sharp and her school to their campuses, the transfer was made in an atmosphere of cordiality. The decision to move to the University of Illinois rather than to the University of Wisconsin was motivated in part by her conviction that the library and the library school should be under the same direction, a situation offered at Urbana and not at Madison.

For ten years, from 1897 to 1907, Miss Sharp served the University of Illinois as head librarian, director of the library school, and professor of library economy. During her administration the collection was almost tripled; the staff was increased, reorganized, and given faculty rank; and the library's relationships with its constituency gained new vitality. The library school was established on a sound basis. Miss Sharp sought unsuccessfully to require a baccalaureate degree for entrance but was able to require three years of college work for admission and to make the University of Illinois the first in the country to award a formal degree in library science based on four years of collegiate study.

Directing both the university's library and its library school were activities demanding enough to absorb any one person's energies, but Miss Sharp was active in many other enterprises as well. She was one of the founders of the Illinois State Library Association and was involved with the affairs of the American Library Association, the Bibliographical Society of Chicago, and its successor, the Bibliographical Society of America, and of the Association of Collegiate Alumnae as well as other organizations. She led in efforts at library development throughout the state and, in particular, took the lead in the campaign for the formation of an Illinois State Library Commission.

These activities and others contributed to the serious drain upon her strength that hampered Miss Sharp's career from time to time. By 1907, however, when she resigned after ten years of service to the University of Illinois, her health was considerably restored. Her decision was motivated both by the loneliness resulting from the recent deaths of her father and her brother and by her great interest in the work of the Lake Placid Club. This organization had already taken Melvil Dewey from active service as a librarian, and his offer that she should become a vice-president was a very appealing one. During the previous years, she had become very much attached to the Deweys and, for the last years of her life, she joined that family circle. Her death in 1914 came as a result of a fall from the Deweys' Stanley Steamer during a mountain excursion undertaken in connection with the celebration of Godfrey Dewey's marriage.

Miss Sharp was a devoted disciple of Melvil Dewey, but she was much more than a slavish follower of his ideas. Her school mirrored much of the Albany curriculum, but it soon took on distinctive characteristics of its own. She raised the standards of admission above those of the Albany school and sought to raise them even more, despite Dewey's warnings that she was moving faster than was prudent. However much she was Dewey's follower, she was also a woman of pronounced independence and strength of conviction. Her mark is still to be seen in Urbana and upon the other library schools and librarians whom she influenced. Among those who were educated under her direction and later worked for her were F. K. W. Drury, Harriet E. Howe, Grace O. Kelley, Margaret Mann, Isadore Mudge, and Minnie E. Sears. Seeking to attribute influence is risky at best, but there can be no doubt that Miss Sharp's personality and ideas survived her.

Grotzinger's study succeeds admirably in conveying both the facts of Miss Sharp's life and the personality of the woman. It is based upon sound and exhaustive study of the available materials. The book, a doctoral dissertation carried out at the University of Illinois and published by the Scarecrow Press, bears the stigmata of both circumstances. Grotzinger's prose, while serviceable, is not espeically felicitous. A considerable number of small errors have been preserved in the published volume. This result is particularly unfortunate, not only because the study is very good but because a capable editor could easily have made it topnotch. The rationale behind the

Scarecrow Press's operations has considerable validity, but its flaws are all too clear when a good piece of work is prevented from reaching the high standard that its basic substance justifies. It is a considerable praise for Grotzinger's work that it remains, despite these drawbacks, a sound, readable, and definitive study of an important figure of American librarianship.—*W. L. Williamson, University of Wisconsin.*

Libraries and the College Climate of Learning. Ed. by Dan Bergen and E. D. Duryea. Syracuse, N.Y.: Syracuse Univ. Pr., 1964. ix, 84p. $1.25. (66-18300).

This series of papers from a conference at Syracuse University in June 1965 will be especially welcomed by those who heard enthusiastic accounts from the people who attended. The conference, sponsored by the school of library science and the Program for Higher Education in the school of education, offered some eighty librarians, professors, and administrators an opportunity to consider the drift "away from a primary concern with student learning," and "to introduce new insights illuminating the relationship of the undergraduate student, the institutional or campus climate, and the library." The two purposes are admirably fulfilled by the professors and librarians who prepared the papers.

The first, by a psychologist, with the intriguing title, "The Book on Bardot's Bottom," is an analysis of today's undergraduates which concludes reassuringly that they "have come to school to learn, and to find relevance to life in that learning." And if there sometimes seems to be a lot of sex among the "books and banners," the history of collegiate education proves it was ever thus.

Next, a sociologist considers the problem of providing the student with resources outside the classroom where "a good share, if not most" of his learning takes place. Considering the advantages of homogeneity in the small college versus those of diversity in the university, he concludes that, for library purposes, "We shall have to have it both ways." He suggests the student union as a good place to locate a "sublibrary" and that "no campus library is a good library if it does not have a good coffee shop." He admits, however, that, "The coffee would need to be priced a little high, perhaps, to replace books smudged to death by greasy fingers."

Mrs. Patricia Knapp then speaks wisely out of her experience at Monteith College. She states her conviction that "the major potential of the library toward the development of an integrated learning environment lies in its relationship to the curriculum and the faculty," suggesting that the involvement of the librarian in such a relationship is more important than the physical location of the book collection.

Robert T. Jordan of the Council on Library Resources dreams big in the next paper about the "library-college" and the elements of a liberating education. He offers specific patterns for the design of a library "that has incorporated within its structure both formal and informal educational activities."

In the next paper, an educational sociologist describes the evolution of American higher education and predicts its implications for future librarians. Library elder statesmen will be fascinated by this professor's-eye view of what they have experienced, and young librarians should read it as a guide to how to adapt to the changing requirements for successful librarianship.

Dan Bergen, then of the Syracuse school of library science, provides a thoughtful conclusion, as joint editor with E. D. Duryea, the chairman of Syracuse's Program in Higher Education, who wrote the foreword. —*Katharine M. Stokes, Western Michigan University.*

Book Publishing in America. By Charles A. Madison. New York: McGraw-Hill, 1966. 628p. $12.50. (66-18477).

The title of Charles A. Madison's most recent volume is over-inclusive, because the book does not really attempt to describe the multifaceted personality of *Book Publishing in America.* Perhaps a more exact title would be *Chronicles of Book Publishing in the United States;* its breadth is limited to one country and its scope to one dimension of publishing history—*viz.*, to the great firms, the great names, and the great books of a great industry—without attempt to interpret or exegete upon them.

The book is good, old-fashioned, "battles-and-kings" history, and as such it succeeds. Everyone who was anyone, every storied incident, every colorful imprint in the industry's 150-year lore is arrayed before us in full panoply. Here is truly a "Field of the Cloth of Gold." If its otherwise felicitous prose becomes weighted down on occasion by distended catalogs of escutcheons and crests, it must be remembered that chroniclers have had it ever thus. The thirteenth book of Holy Writ, essential though it may be, has remained unreadable for three millenia, and the genealogies of King Alfred of necessity read like a laundry list.

The present book's main thrust, because of its comprehensiveness, will probably be as a reference work, although its value as such will no doubt be reduced by the fact that its index, despite its twenty-one pages, is not as detailed as some might wish. In using the book for reference it must also be borne in mind that surveys of the American publishing industry draw heavily from reminiscences, memoirs, garrulities, and biased company histories—all of which are notoriously irresponsible historical accounts —and that such surveys themselves are therefore replete with factual inaccuracies. Scholarly, dispassionate, primary research into the many specific aspects of the industry has not yet been accomplished in adequate quantity to permit the writing of an essentially correct secondary survey.

Yet the author has done quite well by the sources available to him. His bibliography includes sixty-seven entries—most of them books—and the text makes clear that he has read, assimilated, and utilized them all. One would perhaps wish that he had made greater use of the periodical literature; sometimes more factually accurate accounting of details can be found therein. He may be partially excused for not doing so, however, by the lack of a good bibliography of American publishing, which makes the whole area a veritable jungle for the researcher who would work there. Generally, Madison's research will be considered reasonably adequate.

Documentation is abysmally absent. The scholarly world finds absolutely baffling the reluctance of many commercial publishers to document quotations in their books, and the present volume is an excellent exemplar. There are numerous tantalizing quotations, such as " 'the houses controlled by trade courtesy invariably endeavored to meet all trade friction on the highest plane of equity' " (p. 64), which are dutifully ensconced within double apostrophies but with no indication whence they were plucked. To pursue these thoughts further with their original authors, the reader has no recourse but to browse page-by-page through the sixty-seven tomes enumerated at the back of the book. Is this not a wasteful dereliction of scholarly responsibility?

On balance, however, this is a good and useful book. All medium-sized and large libraries will doubtless want it, as will individuals interested in the rise and development of this major American industry.—*D.K.*

The Library in Colleges of Commerce and Technology. By G. H. Wright. New York: London House & Maxwell, 1966. 175p. $5.95. (66-21410).

The need for this book lies in the very existence of the institutions which figure in the title. The whole area under discussion is a very peculiarly British affair and something should be said to put it into some frame of reference.

The majority of British children leave school, and so finish with compulsory education, at the age of fifteen. The minority remaining continue for another two or three years, and of that minority a small percentage will go on to the universities. This structure is always in a state of flux, and a generalization can be dangerous but, broadly speaking, it is this situation which has created the pattern described in this book.

Of the fifteen-year-old school-leavers, many—probably not a majority—will continue with some kind of vocational training. Much of this will be on a part-time basis conducted in the colleges of commerce and technology. For the most part courses will be in essentially practical areas of training and education, such as craft courses for engineers, builders, plumbers, and so on; there also will be courses in commercial and secretarial fields.

The position of the library and the librarian vis-à-vis such students is a complex and a difficult one. To begin with, the schools

from which the students have come are not, over the length and breadth of the country, at all well provided with school libraries, and among them the qualified school librarian is virtually unknown. The fact that the students did not pass beyond the compulsory schooling age of fifteen may partially be attributed to their relatively low interest in reading. They have not in many instances been regular users of public library services. In other words, they come to the college with an inadequate background of library usage. Their success in their course work and their subsequent career will, however, depend to some extent (however small) on their ability to utilize the college libraries. The library must also cooperate in the task of helping to fill some of the deficiencies in general education. This, at any rate, is a part of the act of faith which lay behind the postwar expansion of libraries in such institutions.

The authors of this composite work are, for the most part, actively engaged in this challenging, even if somewhat forlorn, area of librarianship. The chapters deal with the actual presentation of material for certain categories of student as well as the more vexing question of the role of the library as a liberalizing influence amid a welter of vocational courses. The book gives a clear idea of the problems which are being faced, and the enthusiasm of those engaged in the battle can easily be deduced.—*Roy Stokes, Loughborough Technical College.*

Report on Project History Retrieval. Tests and Demonstrations of an Optic-Coincidence System of Information Retrieval for Historic Materials. By Elizabeth Ingerman Wood. Philadelphia: Drexel Institute of Technology, Graduate School of Library Science, c.1966 (Drexel Library School Series Number 14). xiii, 123p. $3. (66-21944).

Mrs. Wood's book is a description of a system of information retrieval called optic-coincidence. In brief, the system works in this manner. Each item, document, book, print, or what have you, is described on an index form by author, title, and/or other appropriate entries. Each item is numbered. Characteristics, or descriptors, akin to subject headings, which best fit the piece at hand, are chosen from a master list. A gridded card for each characteristic is made and a hole is drilled in it at the coordinates which indicate the serial number of each item having this description. Finally, the user selects term cards which best describe the questions he has in mind, piles them together and shines a light through the lot. The places where the light comes through indicates the serial numbers of items in the collection which fill the reader's requirements. The reader then goes to the numbered index forms, as provided by the grid coordinates, and compiles a list of materials he wishes to use in the depository. Each term card, measuring about 8″ × 10″, has locations for 10,000 numbers; thus, as many as 10,000 items can be recorded on each term card.

Mrs. Wood is using this system with success at her own operation, the Joseph Drexel Institute, and the Copeland-Audelot at the Henry Francis DuPont Winterthur museum. With the help of that institution, Drexel Institute and the Copeland-Audelot Foundation, she explored the possibilities of the system in collections at the Library Company of Philadelphia (books); the Delaware state archives (governmental archives); the New York Historical Society (miscellaneous personal manuscripts); Eleutherian Mills historical library (family papers); Archives of American Art (large quantities of microfilmed papers); Virginia colonial records project (microfilmed official records); the Lewis-Walpole collection of eighteenth century English prints; Smithsonian Institution (silver objects); Winterthur museum (furniture); and finally, an amalgamation of all nine samples into a union index.

Mrs. Wood reported her conclusions to a conclave held in Philadelphia in the spring of 1966. As one of the participants at that meeting, this reviewer came away with the opinion that this system probably was not suited to large collections of materials. Mrs. Wood, in her published report, tends to agree. Had her samples, which were limited to relatively small numbers of items in each of the nine institutions, been larger, it might have been possible to show that these fears were unfounded.

Be that as it may, it appears that Mrs. Wood has proved that the optic-coincidence system of indexing materials in a relatively

small collection will work economically and efficiently. Indeed, the curator of silver at the Smithsonian was enthusiastic over the possibilities of the system, providing her with a useful means of categorizing her materials. In short, for certain types of collections, this system may be one answer for the mechanical means of information retrieval.—*Marcus A. McCorison, American Antiquarian Society.*

Interlibrary Request and Loan Transactions Among Medical Libraries of the Greater New York Area. By Lee Ash and Vernon R. Bruette. New York: The Survey of Medical Library Resources of Greater New York, 1966. 199p. $5. (66-26014).

Interlibrary loans are big business. This survey provides badly needed facts and suggests trends. While some of the findings are hardly unexpected, there are a few surprises.

The survey was set up in 1963 by funds from the Health Research Council of the City of New York. Gertrude Annan served as principal investigator with Jacqueline Felter and Erich Meyerhoff as co-investigators. The Medical Library Center of New York supplied office space and equipment. The original broad charge to the surveyors was soon narrowed to concentrate on interlibrary loans.

The surveyors pragmatically decided to use all of New York state and the area from Groton, Connecticut, through northern New Jersey for loans and requests. In addition, loans made to the survey libraries from the College of Physicians of Philadelphia and the National Library of Medicine were included. Questionnaires were sent to 441 libraries, 278 returned completed reports, and 224 agreed to take part in the survey. Of the 217 libraries which remained in the program for the full year, seventy-nine provided the bulk of the material.

The data used, which included requests for original materials and for photoreproductions, amounted to 99,452 transactions (27,825 requests by the survey libraries, and 71,627 requests to the survey libraries).

Of the serial requests made by the survey libraries 42.1 per cent were made by nineteen commercial concerns. The requests received by the survey libraries showed that 50.1 per cent came from the commercial concerns (mostly pharmaceutical houses). The National Library of Medicine received 14.5 per cent of all serial requests by the survey libraries. Some 9.6 per cent of the total requests went unfilled.

One of the biggest surprises for the surveyors was that almost 18 per cent of the requests by the survey libraries were made outside the survey area. This has some important implications for regional planning.

Tables break down the transactions by borrower, lender, and type, date, language, and subject of publication. The source records have been kept at the Center and are available for further study. The surveyors hope to publish elsewhere more detailed tables showing rank orders and numbers of requests and loans for the frequently-used journals.

In addition to drawing attention to the need for detailed cost studies (to include both direct and indirect elements), the surveyors conclude by emphasizing that the burden on the larger libraries must be relieved, that these libraries should "supplement" not "supply." They also stress the importance of on-the-spot service in the small libraries.

This is a census of a region and not a sample that could validly be extended over the country. It is a valuable report that should have a profound effect in the New York region and could have an effect nationally if other groups pick up the challenge and make comparable studies.—*William K. Beatty, Northwestern University.*

Books in America's Past. Essays Honoring Rudolph H. Gjelsness. Ed. by David Kaser. (Published for the Bibliographical Society of the University of Virginia.) Charlottesville: The University Press of Virginia, c.1966. x 279p. $8.75.

When Rudolph H. Gjelsness retired in 1965, he had served the profession of librarianship for more than forty-five years, the last twenty-five years as chairman of the department of library science at the University of Michigan. This tastefully designed volume was published as a token of respect for Gjelsness' long, distinguished, and fruitful career as librarian, library educator, and scholar.

The volume contains thirteen contribu-

tions written by Gjelsness' former students at the University of Michigan. In the order of appearance the writers are: Robert D. Harlan, Roscoe Rouse, Samuel J. Marino, Richard L. Darling, W. J. Bonk, David Kaser, Olga Bernice Bishop, Russell E. Bidlack, Leroy Hewlett, Frank L. Schick, Benjamin M. Lewis, John E. Kephart, and Donald W. Krummel. Professor Gjelsness must receive unusual satisfaction in that all the authors are now practicing librarians or teachers in library schools.

The essays contained in the volume relate to some aspect of publishing, bookselling, and library development in eighteenth- and nineteenth-century America (Canada and the United States), a topic that never ceased to fascinate Professor Gjelsness during his long career as teacher and director of student research.

In the main, the authors have not written on unexplored topics but have corrected, reinterpreted, and extended the work of earlier writers. The finished results are informative and make pleasant reading. The student of early American publishing and bookselling will enjoy the well written essays on David Hall's bookshop, college society libraries, French-language printing, children's books before the Civil War, periodical and antislavery publishing in Michigan, America's first Catholic bookseller, the first printing press in Canada, the beginning of the University of Michigan library, James Rivington, engravings in American magazines, the exceptionally fine treatment of *Norton's Literary Gazette*, and a brief treatment on paperbacks—past and present.

The book was beautifully designed by Edward G. Foss. The index is adequate. If he ever doubted it, Professor Gjelsness should now be assured that his teaching career was successful.—*Cecil K. Byrd, Indiana University Library.* ■■

DOROTHY JOENS GLASBY

New Periodicals of 1966—Part II

THE YEAR 1966 saw the death of many publications but there seems to be no lack of new journals. Only a few of the new ones can, of course, be mentioned below and it must be remembered that those so mentioned are not necessarily the best or the only ones in their fields.

In the alphabetic listing at the end of this article subscription information, in so far as it could be determined from the publications themselves, has been given. Prices, unless otherwise noted, are annual charges for library subscribers. Library of Congress card numbers have also been included. As in earlier lists, the publications marked by an asterisk have not been annotated in any way as their titles would seem to be sufficient explanation of their contents.

AREAS, REGIONS. The poverty and problems of Appalachia are still much in the news but the *Appalachian Review,* published by West Virginia University, does not wish to have us lose sight of the really valuable assets of the region. The *Review* will focus on the worthwhile things of the mountain areas and each issue, in addition to articles on art, crafts, and ways in which the people live, will include a special look at one of the states in the region. The first issue puts the spotlight on North Carolina. *Arkansas State* reports on an area where there have been many changes and where many changes are expected in the future. The new quarterly will treat a wide variety of subjects (people, places, industry, history) and has many beautiful colored illustrations.

All about Maine, what is right and what is wrong, is promised by *Maine Digest.* It follows the usual digest format of small size and short articles but is somewhat more heavily illustrated than one might expect.

THE ARTS. Although *Bells and Bellringing* is small and unpretentious its subject matter is most fascinating and it includes material that one certainly cannot find anywhere else. The new quarterly's concern is with the history of bells and it gives much information about the best and the greatest bells and about the people who rang (or played?) them.

Harvard Art Review is "concerned with the discussion and analysis of perception as well as with the field of fine arts." The *Review* is not local in character and the first issue includes a number of translations, some from Jean-Paul Sarte. As one might suppose, there are many black and white illustrations. Beautifully colored illustrations are an asset to *Southwestern Art.* The word "art" in the title is meant to include painting, sculpture, theatre, literature, antiques, coins and currency, architecture, pre-Columbian and Indian antiquities, and many other things. Museums, art schools, and artists of the American West and Southwest will be featured and the editors promise articles and reproductions of heretofore uncataloged and unexhibited paintings by great masters in collections in that part of the country.

Another magazine of the arts, *Form,* wishes "to publish and provoke discussion of the relation of form to structure in the work of art, and of correspondences between the arts." Emphasis will be placed on the "fields of kinetic art and concrete poetry." Each issue (all librarians take note) will present an author index to and short extracts from a "little" magazine of international interest. Information will be given as to the holdings of the magazine in British and American libraries as well as the approximate cost of microfilm for the complete run. The first issue features *Secession,* published 1922-24.

Sculpture is claimed to be the "only English periodical on sculpture." It will cover sculpture, painting, architecture, and social environment. The first issue is quite heavily illustrated. Although the text is in English,

all major articles appear in condensed form in French, Russian, and Spanish.

BOOKS, LIBRARIES. Everything for the book trade (in Germany) is the promise of *Buchmarkt*. Although it includes much material on new books, it is designed for book dealers and publishers rather than for librarians. It will include information on marketing trends, data processing for those who handle books, and other similar material.

"An annotated guide to current magazines and books," *Expanse* will, in each issue, describe articles appearing in about one hundred publications (such as *Playboy, Time, Reader's Digest*). The new biweekly seems to be designed for the personal reader as, in addition to its 10-12 line abstracts, each issue will have a "reading course" on a different subject. The course in the first issue is called "The American Character" and it includes a short bibliography.

Although the publication is small the subject matter of *Catalogue & Index* should guarantee interest among librarians everywhere. As the voice of the Library Association's Cataloguing & Indexing Group, the quarterly will give news of and be an information exchange for cataloging events and ideas in the British library world. It will also include book reviews.

BUSINESS, INDUSTRY. *Mergers & Acquisitions* is a hardbound "journal of corporate venture." It will report on tax regulations, pending legislation, and the best times to buy and sell. In addition there will be "how to" articles on merging as well as discussions of mergers that failed. The first issue includes: "Merger Lemons," "Mystique of Antitrust" and "Government Guarantees for Your Investment Abroad."

Reflecting the present interest in all things African, *African Development* puts emphasis on what Britain can do for Africa and "will be reporting on the financial situation in Britain as it affects Africa, on the capital available, on the latest equipment and services designed for the African market, on the aid situation, on the plans of British firms for new factories in the continent, on the contracts awarded, on the significant journeys of significant people." At the same time, however, developments in Africa will be studied so that businessmen can understand what commodites are available and how the vast and growing market of Africa can be tapped.

Chase Manhattan Bank's *World Business* replaces two earlier publications: *Latin American Business Highlights* and *Report on Western Europe*. The new bimonthly will include features in depth on areas such as Canada, Oceania, and Africa as well as continue the coverage of its predecessors.

EDUCATION. "Teacher-Supervisory Relationships" and "The Role of the Teacher in Educational Decision Making" are two of the articles from the first issue of *Changing Education*. The quarterly, issued by the American Federation of Teachers, hopes to provide "free and open discussion on topics pertinent to education and social change and to the teacher union movement." Its editors say that "because of our labor union orientation, we will attract and welcome more than the usual proportion of articles that will relate our educational problems and their solutions to the inadequacies of a sick society."

For all who work with exceptional children, the *Journal of Special Education* is a "multi-disciplinary offering intended as an avenue for communication and interaction among the various disciplines concerned with the education of the exceptional child and with special problems in general education."

GENERAL. The *Saint Thomas More Political Science Journal* is nonprofit and privately published and, although it is not affiliated with any college or university, has an editorial staff made up entirely of undergraduates. It will be a voice for the "conservative reasoning in our youth," those who believe that "America was built upon the firm rock of a fiscally and morally sound government of socio-economic responsibility and not upon the shifting sands of our contemporary governmental operation of 'handouts,' red ink, and overburdening commitments in the world state." The first issue includes: "A Program for Civil Rights" and "Viet Nam: Our Manpower Problem—Why Not Mercenaries?"

Another publication which has ideas on the world situation is *Discern*. In addition to a report on Viet Nam, the first issue has fiction, poetry, and recipes. It, too, would

seem to be the work of undergraduates although that is not stated anywhere. *Louvain Studies* is published by the American College of the Immaculate Conception of the Blessed Virgin Mary in Louvain, Belgium, so its articles are mostly the work of priests or those studying for the priesthood and deal with a variety of religious, moral and theological matters.

Career World will provide information on careers for women. In addition to telling of the glamour and advantages of certain occupations, the monthly will give practical information on how to find and get jobs and will carry job-wanted advertisements. Each issue will feature the careers available in a particular city. The first is about Washington and the many opportunities available for those who work for the government.

The editors of *Parallel* say that they are tired of apologizing for Canada. They wish to create a magazine that will interest Canadians but also one produced in Canada that can, for the first time, interest non-Canadians. Each issue includes poetry, fiction and short pieces on current events and people in the news. Although the periodical is issued in Canada, its material will come from all over the world.

LAW. The *University of San Francisco Law Review* is another on the always growing list of university law school publications. The articles in the new *Review* will be written by practicing lawyers but there will be shorter contributions (called "Comments") written by students. The editors of *European Transport Law* feel that "lawyers and economists are called upon to pool their knowledge in order to attain greater safeguards answering the needs of industry." They feel that the laws and administrative regulations relating to transport must, in this age of space travel and changing frontiers, be reconsidered. The journal is in English, French, German, Dutch, and Italian and the subscription price includes an annual index in the language of the subscriber's choice.

LITERATURE. As always, a number of new "little" magazines have begun publication. Many of them simply appear and their first issues say nothing of what is planned or even of who is doing the planning. *Riverrun*, for example, is a monthly of poetry and is published in New York. The poets included in the first issue seem relatively unknown and the magazine does nothing to identify them for the reader. *Vagabond*, published in Munich, is to be a "literary quarterly of poetry and prose." Most of the contributors to the first issue seem to be Americans studying in Germany. In addition to poetry, the first issue has a short story in the original German followed by an English translation. It is hard to try to predict what type of material future issues will contain.

The *University of Denver Quarterly* will attempt to exist "between the historical moment of the 'modern' and the still unrealized moment of the 'new.' " It will publish essays, reviews, poetry, and fiction but plans no defense of any particular school, system, or tendency of criticism. *West Coast Review*, a Canadian literary journal, will include a continuing bibliography of "avant-garde" writing. In the first issue the thirteen-page bibliography is "The Critical Writing on Samuel Beckett." The *Review* will publish English and French poetry, fiction, and articles on drama, music and art, as well as essays and reviews of books dealing with the arts and creativity.

Another literary quarterly, the *Boston Review* will publish writing done by New Englanders (anyone born in New England is a New Englander forever) or done in New England. Each issue will feature "an exemplary but unknown writer," the first being Sidney Goldfarb.

Arcadia, a periodical of comparative literary science, does not subscribe to the idea that national literatures should be considered separately. It will be a forum "for all present-day comparative methods" and will also consider those fields (such as the reception of the classical and oriental literatures of antiquity by the national literatures of Europe) which are marginal to its main interests. Although *Arcadia* intends to include material in English, French, and German, the first issue is entirely in German.

RECREATION, HOBBIES. For anyone who owns a pet, *Pet Fair* will contain practical guidance on pet care, information on nutrition, health, grooming, and other such matters. It will include, also, features on famous pets and on the pets of famous people. There will be fiction about animals, humor, photographs, and a special section

of puzzles, games and stories for small children. "Hatching Tortoise Eggs" and "Trailing Turtles" are two of the articles in the first issue of the *International Turtle and Tortoise Society Journal.* The society was established for "the conservation of turtles and tortoises of the world" and the *Journal* will reflect that interest.

"Come let us discourse about fish" (a quotation from Athenaeus) says the editor of *Aquarium Illustrated* and the new publication does just that. Devoted to the tropical fish hobby, *Aquarium* will include information on food, species, and equipment and the first issues contain many illustrations. For those who prefer their animals and birds outdoors, *Georgia Game & Fish* is issued by the Georgia Game & Fish Commission to keep its readers informed of the commission's wildlife conservation activities and, also, to increase the pleasure of sportsmen by giving them information on the best methods, times, and locations for hunting and fishing in Georgia.

Directors of the New Hampshire, Vermont, and Maine Aeronautics boards serve as editorial advisors for the *Flying Yankee* which will be "all about aviation in New England." The *Yankee* will report on airports, airmen, shows, special flights, and new developments in legislation and safety. For those whose interests are in the water rather than in the air, *Ships Monthly* will be "concerned with everything nautical, with anchors, guns, and figureheads, as well as with ships in their entirety, and in the literature, art, song, and music of the sea." The first issue includes a pull-out drawing of plans for a British cargo ship as well as articles such as: "Clydeside Clippers of the 1860's" and "British Destroyers."

The first issue of *Antiek,* from the Netherlands, contains many beautiful colored illustrations of antiques and, also, a variety of discussions on restoration, collecting, and history of antiques.

SCIENCE. Published in Budapest by the Hungarian Academy of Science, *Acta Biochemica et Biophysica* is following the worldwide tendency of scientific journals to narrow down their fields of specialization. In the past the results of biomedical research carried on in Hungarian laboratories has appeared in the Academy's *Acta Physiologica Academiae Scientiarum Hungaricae.* The new quarterly will be published in languages, chiefly English, other than Hungarian.

Earth-Science Review will present review articles under four main headings: *A.* Mineralogy, igneous and metamorphic petrology, geochemistry. *B.* Geophysics, volcanology, geotectonics. *C.* Sedimentology, paleontology, historical geology. *D.* Economic and applied geology. The quarterly is intended as an international magazine for geoscientists and its articles will carry extensive bibliographies. *Earth and Planetary Science Letters* is designed to help scientists keep up with current advances. The letter form of publication, in this and other similar journals, means that the articles will be brief and the illustrations few and simple.

In English, French, or German (all with English summaries) the writings in *Mineralium Deposita* will be concerned with investigations from the fields of geochemistry, mineralogy, physical chemistry and similar subjects. Although published by Springer-Verlag, the new journal is issued under the auspices of the Society for Geology Applied to Mineral Deposits.

Each year the June issue of *Oceanology* will be a yearbook/directory listing government agencies, companies, and organizations dealing with oceanology as well as aquariums and sources for products and services which are available. The magazine will have feature articles in its subject field as well as editorial reports on topics of current interest. Its editorial advisory board includes such distinguished names as Jacques-Yves Cousteau of Monaco and Allyn C. Vine of Woods Hole.

Desalination, "the international journal of the science and technology of water desalting," appears at a time when there is great interest in its field of investigation. The quarterly will, in addition to scholarly annotated papers, include reviews, news, bibliographical lists, and statistics.

"Japan is of growing importance as one of the world's prime industrial nations but Japanese is outside the linguistic mainstream of the Western world" say the editors of *Science and Technology in Japan.* In order to communicate with the West, Asahi Evening News is publishing the new quarterly. The first issue is beautifully printed on

heavy paper and has many illustrations.

Although there are a number of journals reporting areas of interest in the hospital and health care fields none, until the appearance of *Health Services Research,* has put emphasis on research. The first issue of *Research* includes articles such as: "Patients' Waiting Time and Doctors' Idle Time in the Outpatient Setting" and "Identification Code for Medical Records."

SOCIAL SCIENCES. Published under the auspices of the University of Wisconsin's Industrial Relations Research Institute, Center for Studies in Vocational and Technical Education, and Institute for Research on Poverty, the *Journal of Human Resources* will study the effects of education, manpower, and welfare policies in the classroom, the labor market, the community, and in the lives of human beings. Its first issue has articles on: "Supply and Demand for College Teachers" and "Guidelines for Adult and Vocational Research."

PHRA; Poverty and Human Resources Abstracts provides summaries of information from periodicals, pamphlets, books, unpublished working papers, speeches, seminar and research reports, and all other material which the editors and subscribers feel are relevant. Items are organized and cross-referenced under a number of major categories and by geographical area and population type being considered. The bimonthly will appear in a library edition in which each issue is bound in a heavy cover and in a loose-leaf edition in which each item is printed on a single sheet. Each issue will have about fifty abstracts of four hundred to six hundred words, one hundred to two hundred subject annotations (short descriptions of scope and several of the most significant points of finding, methodology, or policy implication) bibliographic references, and a ten to twenty page review article examining a particular aspect of the poverty problem or trends in the field.

Family Perspective, a rather more general perodical than others noted in this section, is intended to stimulate family table-talk, interest, and home research. It is issued by the College of Family Living of Brigham Young University and its first issue examines matters such as: "Utah's Divorce Situation" and "Thiamine Research—Past and Present."

A quarterly review of Latin American studies in the social sciences, *Aportes* will have one long feature article in each issue as well as a number of shorter articles. Each issue will include a lengthy bibliography.

The *Psychoanalytic Forum,* issued by the Psychiatric Research Foundation will publish short essays followed by opinions expressed by qualified discussants. The quarterly prefers to limit itself to clinical contributions and discussions of technical aspects rather than going into the realm of theoretical debates. Even the book reviews included will be presented in the form of free discussion representing different ideas and evaluations of new publications.

Roundtables on timely topics (the first is capital punishment) will be included in each issue of *An International Journal for Existential Psychiatry,* the publication of the American Ontoanalytic Association. In addition to the roundtables and other articles, book reviews and reports on new drugs will be included.

PERIODICALS

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African Development. African Development, Ludgate House, Fleet St., London E.C.4. v. 1, no. 1, 1966. Monthly. £2/2/0. 66-9965.

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Arcadia. Walter de Gruyter & Co., 1 Berlin 30, Genthiner Strasse 13. v. 1, no. 1, 1966. 3 no. a year. DM 42,-. 66-9923.

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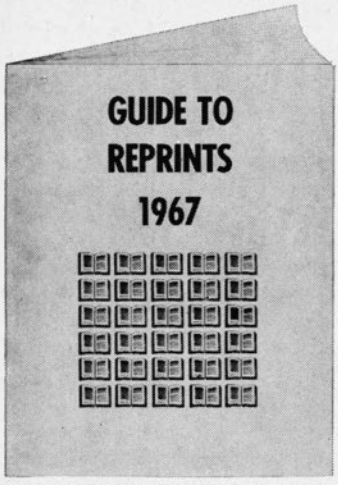

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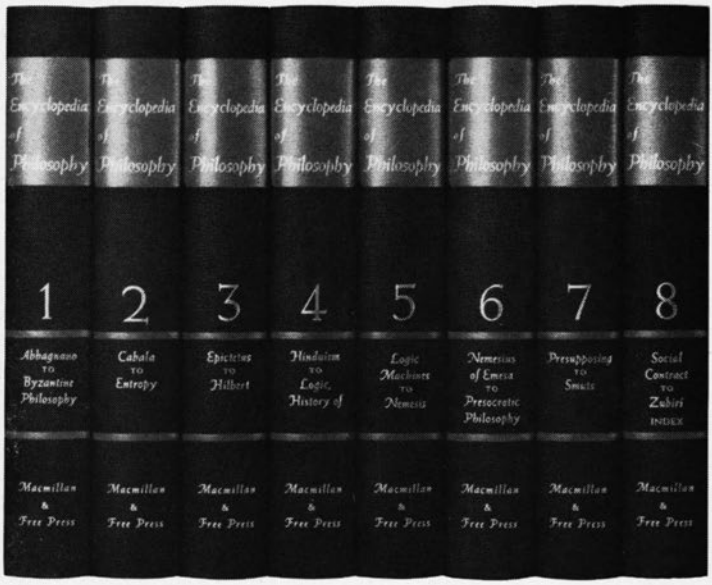

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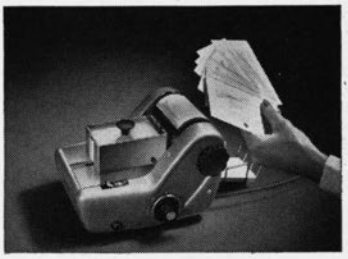

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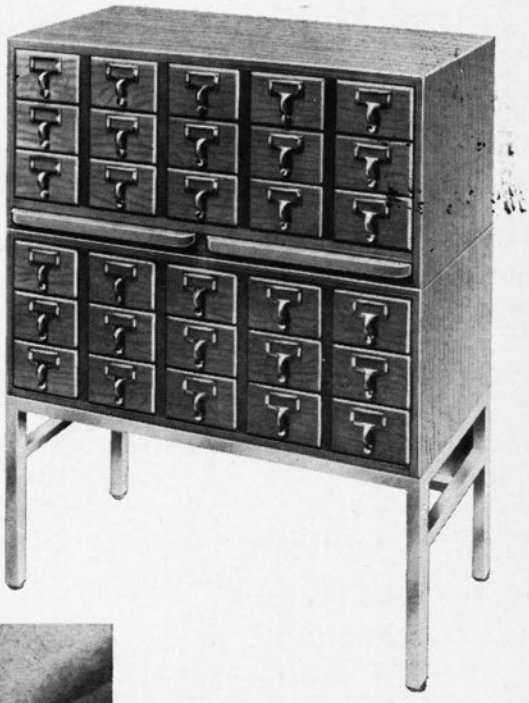

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